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EDITORIAL NOTES

WHO ARE YOUR FRIENDS?

There are a number of people who have been pretty good friends of yours; it is beside the question that they are working for their own reasonable profit. They have helped you to build up your JOURNAL and they make it possible for you to have a journal of the size and make up of the STATE JOURNAL. Do you trade with your friends, other things being equal, or do you not? Did you ever stop to think that there is scarcely a thing that you need to buy, from green soap to groceries, from surgical instruments to sermons in print, and that there is not an institution to which you may wish to send a patient, that is not advertised in your JOURNAL? If you do not believe this, and there are always some who will not believe without evidence, just look carefully through the advertising pages and you will be convinced. In these pages your friends, your advertisers, present for your notice and attention, a great variety of wares; all are good and reliable, or they would not be there. Recognize your friends when you see them and deal with them as they deal with you.

PHYLACOGENS, THE JOURNAL A. M. A., AND PARKE, DAVIS & CO.

"Schafer's serum" began out here in California and traveled East to Detroit where it was taken in by Parke, Davis & Co., dubbed "Phylacogen" and recently very extensively exploited. Just exactly what goes into the patient when he is given Phylacogen, nobody knows; but we do know that it is terribly potent and by no means free from disastrous results. The *Journal A. M. A.* wisely called attention to the dangers, to the unscientific way of indiscriminately recommending a something of this sort known to be terribly potent. Parke, Davis & Co. come back, not with anything is the nature of argument or fact, but with the old, old cry of the "patent-medicine" faker—"personal animus"! The *Journal A. M. A.* quotes from letters sent out by Parke, Davis & Co., and signed by E. G. Swift, general manager, as follows:

"The real motive and animus of the attack are to be sought in the determination of Doctor Simmons to dragoon Parke, Davis & Co. into submission to the Council on Pharmacy and Chemistry of the A. M. A."

"The editor of the *Journal,* looking on the Council as his creature, has resolved to dragoon us into submission—to compel us to bend our neck to the yoke and introduce no specialty to the medical profession without the knowledge and permission of his Council."

Suppose, for the sake of argument, that anything so silly were true; that Dr. Simmons, or any one else, was trying to "dragoon" Parke, Davis & Co. into doing—what? Submit its preparations to the Council. And what would the Council ask, in that case? Merely that the product be of known composition, honestly made, honestly put before the medical profession, and honestly handled. Does Parke, Davis & Co. object to doing any of these things? It certainly would seem that they do so object; that the simple rules of the Council regarding honesty of composition and honesty in all advertised statements, are irksome to Parke, Davis & Co. Representatives of Parke, Davis & Co. are quoted as saying that the *Journal* was "unfair" to Parke, Davis & Co. in the Taka-Diastase incident several years ago. What were the facts and what was "unfair"? The Council notified the house that Taka-Diastase, within a short time after being made, became practically worthless and that the claims made for it were extraordinary and untrue. This the house admitted. But did Parke, Davis & Co. either withdraw the product from sale or date the packages so that the purchaser could tell whether he was being cheated or not? And then because the *Journal A. M. A.* published the truth about this Taka-Diastase it is accused, by the detail men of Parke, Davis & Co., of being "unfair" to that great manufacturing house! Which is "unfair," the *Journal* in telling the truth or Parke, Davis & Co. in allowing some innocent purchaser to pay his money for a worthless article?

THE ANNUAL MEETING AT OAKLAND.

The Forty-third annual meeting of the State Society, held at Oakland April 15, 16 and 17, was a great success. It is not possible to print all the reports, minutes, etc., in this issue of the JOURNAL and so they will all be held back and the whole story will be printed in the June number. The registration was the largest in the history of the Society—618. On Monday evening there was a dinner of secretaries of county societies and a general discussion of county society work that was distinctly profitable. The Council has authorized the calling of such a meeting next year and recommends that it be a permanent feature of the annual meetings. Santa Barbara was chosen as the place for the next meeting, and a large attendance will probably be there to enjoy the sessions. The officers elected for the year are as follows: President, F. C. E. Mattison, Pasadena; First Vice-President, Barton J. Powell, Stockton; Second Vice-President, George Tucker, Riverside; Secretary, Philip Mills Jones, San Francisco; Councilors, George H. Kress, C. G. Kenyon, J. H. Parkinson, O. D. Hamlin; Program Committee, A. B. Grosse; Public Policy and Legislation, F. F. Gundrum and T. C. Edwards; Committee on Arrangements, Rexwald Brown, Benj. Bakewell and G. Van T. Hamilton; Committee on Public Health, C. C. Browning, Jno. C. King, W. F. Snow, G. F. Broderick and N. K. Foster; Delegates to the A. M. A., for two years, George Hare and V. G. Vecki; Alternates, Clarence Moore, Lem Adams and Emmet Rixford. The scientific sessions were remarkably well attended and the discussions were good. On the whole, it was certainly a most successful meeting and the physicians of Alameda County did themselves proud as hosts and entertainers; they certainly earned the thanks of the Society.

A MOST VALUABLE BOOK.

Beginning, some seven years ago, as a very small pamphlet, the annual edition of "New and Non-official Remedies" has grown till the edition for 1913 has indeed reached a most respectable size. It is a book that should be on the desk of every physician who ever writes a prescription. It is difficult enough, even with all the tremendously valuable work that the Council on Pharmacy and Chemistry of the American Medical Association has done for us, to tell those remedies which are decently and honestly made and marketed from those that are not; it is impossible to do so without frequently consulting this book. "Containing descriptions of all proprietary articles which the Council has found to comply with its rules, it is most desirable that physicians should possess the book"—and *use* it. It may be had, paper bound for 25 cents, and cloth bound for 50 cents, by addressing the American Medical Association, 535 Dearborn avenue, Chicago. Send for a copy today.

DISASTER BY WIND AND FLOOD.

The disaster which came upon the citizens of Omaha and of many cities and towns in Indiana and Ohio, was truly a terrible one and not soon to be forgotten even though the earlier accounts seem to have been greatly exaggerated. A large number of our professional colleagues have suffered and to them we extend our heartiest sympathy; our members in San Francisco can certainly feel for them a sympathy unknown to those of us who have never been so harshly treated by maddened and destructive nature. President Wilson showed the country a wonderful example of his ability in the prompt orders which he issued in regard to life saving and sanitation; to him we extend our humble appreciation. Our own dear Senator Works gave us cause for congratulation in that he did not wire the flood sufferers that all the eddyites in the country were giving them absent treatment.

MECHANIC OR MEDIC?

No little food for thought is furnished in a letter recently received from one of our members who has practiced his profession for a number of years in one of the most attractive parts of the state. And, too, it is a rather sad, concrete example of the pathetic side of a physician's life.

"Whenever I have occasion to advise a young man about studying medicine, my counsel is this: If you deeply love the idea, have a first class mind, a good, thorough intellectual training and at least a university degree, and have the means and disposition to devote ten years to study and hospital experience, go ahead; you may make it worth while. But some turn on me with the assertion (which is true) that many men and women are in practice making good livings who have not had one-fifth as much preparation; and if I say to them you would better be a mechanic, they accuse me of trying to keep down competition for selfish reasons. Here is an argument in point: During the recent heavy rains, the writer was called to see a sick child about two miles distant. On the way my machine stopped in the midst of water about knee deep. A person nearby telephoned to a garage about a mile away to come and pull me out. While waiting, a telephone lineman came along and did that service for me and after drawing the water out of my carburetor I went on to see the patient. Finding the family poor, I charged one dollar for my time and services. Meanwhile the garage man came in his old machine to the scene of my discomfiture and went back home, probably taking about twenty minutes; his bill, which I paid, was $2.50. He had no anxiety for the life of a child; he had no burden of responsibility; he had not even learned a mechanic's trade, and yet he did less and got $1.50 more than I did!"

ON A NEW KIND OF SURGICAL LITERATURE.

It is time that the eye of reprobation be more specifically directed toward a new and regrettable departure in surgical literature. Certain publications have appeared in the near past whose purpose appears to be the exploiting of the surgical and especially the operative skill of their authors without permitting us to judge with any degree of certainty for ourselves of the quality of those virtues. Proclaiming themselves greatly sired, these books are in no wise great. A peculiarity common to this group is that all of them cease to instruct too soon for it to be possible for the student following them to be able to carry out with assurance the operative procedures which in the hands of their authors were reported to have given such gratifying results. In this relation we are reminded of the circumstance of an old lady, long since gone to her reward—deservedly a great one for she was a famous cook. Her forte was the preparation of a most delectable dish known to early Californians as "Chancha Rollado." Many and importunate were the requests she received for the recipe, and gracious and detailed were her responses. Only when the dish prepared according to the given recipe came on the table it no longer was the ambrosial chancha rollado. The wise old lady had left something out of the recipe she gave away. If you wanted chancha rollado you still had to go to her house to get it—and her fame was more enduring than life itself. Had she charged us a dollar for the incomplete recipe the analogy between her work and that of the eminent authors referred to would have been complete.

S. N. I.

RESOLUTIONS ON CONTRACT PRACTICE.

Santa Cruz County Medical Society adopted, at one of its meetings, some resolutions on this subject and then sent a copy to every member with a request that he notify the secretary in writing whether he approved of them or not. It is a suggestion for other county units to consider and the resolutions follow:

> Resolved, That no member of the Santa Cruz County Medical Society shall be permitted to render services to any member or members of a so-called Hospital Association, Corporation, Lodge, Society or other association, organization or institution whose purpose it is to provide medical or surgical services to its members at an agreed stipulation per member; provided, that the above classes shall not apply to industrial corporations, which, as a matter of humanity or emergency, need furnish medical or surgical aid to the bona fide employees appearing on their pay roll, nor to physical examinations of candidates for life insurance.
>
> Do you approve of these resolutions? Answer YES or NO and notify the secretary at once. This will come up for final action at our next meeting.

THE COST OF LIVING; THEN AND NOW.

John Staats, a physician, wrote on the first page of his account book, "The twenty-ninth day of January one thousand eight hundred and twenty, we arrived in the town of Cato, Cayuga, New York." Dr. Staats changed his location quite as much as some physicians in California do; he went to Malta in May 1824; "Started from Malta May 8th and arrived at Lenox, Madison Co., the 14th, 1827"; in 1831 he went to Whitestown; in April 1832 he moved to Dearfield and Nov. 10th, 1832, moved to Geneva. Many of the entries in the book are quite curious and the charges are no less so. There are many entries like this: "Samuel Hunter. To medicines; (child)—0.12½c." Seldom does an entry appear in so large a sum as $1.00 and most of them are from 12½c to 37½c. His regular charge for a confinement seems to have been $3.00, for we find a number of such entries as this: "Talmon Olmstead; To visit, deliv'g sps. 3.00" in which "sps" evidently means spouse, for in other places it is spelled out. But sometimes he altered his rates, for in one place he has entered a charge for delivering "spous" of twins, of $6.00 and then, his conscience probably hurting him, he has charged it to $5.00—a reduction on wholesale lots! On January 8th, 1821, there is an entry that is startling: "Lewis Traviss; to visit, attendance two days and three nights, medicines and delivering spous; $5.50." The saddest thing in connection with the entry of this exhorbitant charge is that it is one of the few not marked "paid"! But there were compensations, in those days; thus we find, in his expense account, "To making black vest 0.75; To making a white vest, 0.75." He bought a "large hog" for $5.00 and paid for it by note. Another entry is "For one quart of whisky and a corn basket 0.50," which we must concede is not high. There are quite a few entries of whisky and the price varied from 12½c a quart up to $1.50 for a gallon; this must have been very old and rare! There was evidently another doctor in the vicinity for we find that to "Doct. I. W. Squyer" he was indebted for "2 vol. Cullen's Materia Medica $1.00" and for various items of medicines and "chunk bottles." Good Dr. Staats had a number of patients and he was a good collector, even though he did move around quite a whole lot.

THE AMERICAN ROYAL COLLEGE OF SURGEONS—J. B. M.

In this fair month of May, in the good city of Washington, is to be held a most remarkable meeting for the purpose of conferring upon American surgeons (query: who—or what—is a surgeon?) a collection of letters indicative of some title, both title and string of letters being subjects for discussion. Martin (of *Surgery, Gynecology and Obstetrics*) and Murphy (of *Murphy's Clinics*) —or should it be Murphy and Martin?—started the game and have skilfully encouraged the ambition to belong to something and decorate one's name with letters. How are the honored ones

to be chosen? From the subscription lists of *Murphy Clinics* and *Surgery, Gynecology and Obstetrics?* Or shall the applicant merely have to attend and register at one of these huge surgical Martin-Murphy clinics? Or must the applicant have a real case of murphitis before he can be considered as a proper one to bear the mystic letters? May we suggest a few titles for this personally-conducted eruption into medical education? How would the "American Surgical Society" do? This could be used for the terminal-letter part quite nicely; "A. S. S., J. B. M." Or this one has been suggested: "American Royal Surgical Emporium, joined by me 1913," which would string out behind one's name quite nicely. Think of the ponderous psychological effect it will have upon one's patients to have one's cards and stationery printed with a whole lot of extra letters after his name. And we'll bet a suit of clothes to a tin-type of Murphy, that a lot of people will take this quite seriously!

WASSERMANN'S AND WASSERMANN'S.

Judging from the circulars sent out by various laboratories, it would seem as if the price of Wassermann reactions had at last reached a sane level. The high prices asked by some serologists a couple of years ago have undoubtedly led to the sprouting up of a number of new laboratories. The reduction in price will permit far more frequent tests than heretofore.

In spite of all that has been said and done, there is still a great deal of misunderstanding in regard to the interpretation of results. We recently heard that a certain "doctor" guaranteed that after a definite length of time he could absolutely furnish his patients with a negative report! It was facetiously suggested by a physician present that a negative report could easily be obtained at any time in any case—"send blood to two different labs, one is sure to be negative." The personal equations of the serologists and the technics employed are the great points upon which we rely when we accept a report at face value. There are probably no two men or institutions in any other city in this state, employing the same technic. A very conservative and conscientious physician of San Francisco has on various occasions submitted blood to two different serologists, the reports in several instances being "+++" from one and "absolutely negative" from the other. In an informal discussion of this question, one gentleman ironically stated that he felt that "absolute reliance and implicit confidence should be placed on the findings of the serologist if they agreed with all other clinical evidence, and where the result was not in accord with the clinical evidence it should be repeated one or more times," the physical examination, of course, to be likewise carefully checked up.

It must not be thought that we of the West are alone in our difficulties. Even in the large medical universities abroad it has been noted that in cases where clinically one would expect positive reactions with the blood and cerebrospinal fluid, such reactions may be obtained by one method and not by a second; or where negatives were expected, the reactions might be positive by the second method and negative by the first.

We see no reason why our serologists should not get together and decide upon a uniform technic—the chief points being, of course, to attempt to use an antigen of equal potency, and to decide as to whether partial inhibition of hemolysis should be reported as a positive or as a negative. A number of medical men are likewise pleading for a uniformity of technic. If serologists cannot get together on this matter, why not insist upon their furnishing on the reverse side of their report an exact description of the technic employed?

It must further be borne in mind that a positive Wassermann does not necessarily mean that the symptoms of which the patient is complaining are referable to an active syphilis. We know of several instances where patients have been operated on for malignant growths in various portions of the body when the Wassermann test was positive.

We should be careful to tell our patients who have positive reports, that the blood gives a positive reaction with the Wassermann test—not that they have syphilis. We know of one instance where a patient with a history of repeated Neisser infections, as well as frequent chancroids, was informed, in the presence of vague pains, that his blood was positive to this test, but that before ascribing his trouble to a luetic infection further observation was required. Dismissing his physician in a huff, a second test was performed by another serologist, with negative results. The patient, rather excited and driven by a guilty conscience, had two more tests performed by different men in New York; both of them being negative, he felt that he could rest in peace. Incidentally, he has refused to pay his first physician on the ground that instead of helping him, the latter has caused him to spend a great deal of money!

It is possible that the luetin reaction introduced by Noguchi, if it proves as valuable as its author believes, will be a decided help, not in replacing, but in checking up the results obtained by the serum test. We feel that in a given case, positive reactions repeatedly obtained by careful workers can be interpreted as almost specific and pathognomonic of syphilis.

This article is in no sense an attempt to discredit the test, nor does the writer fail to recognize the great benefits that have been derived from it, it is rather a plea for a uniformity of technic, and a rational interpretation of results on the basis of a thorough history and physical examination of the patient.

R. B.

IMPROVING MEDICAL EDUCATION IN THE UNITED STATES.

At the time of writing, the state legislature has before it a number of bills, all destructive of the present medical law and not evidencing any proper compensatory constructive intent. Moreover, the administration itself is favorable to changes in the law which will lessen, in great measure, its value to the people. Finally, the people themselves, they who are the most interested in a proper medical law whether they acknowledge it or not, are quite indifferent to their own fate in the premises.

This puts in a very few words the *Status praesens* in California and the prospect is not a satisfactory one. It is, then, a great relief to turn to the current annual report of the President of the Carnegie Foundation and to read his review of the general medical situation in the United States and in Canada, and see what has been gained and how much it is, and how really nothing has been lost in the wider field which must include the narrower.

With a reiteration which is necessary in order to reach the understanding of everybody, President Pritchett points out the fundamental difference between the American way and the German method, and insists again upon the absolute necessity of putting medical education wholly into the hands of educational bodies as a matter of education, and taking it away from the proprietary professional schools, "whose function is to get the ill trained and the unfit into medical practice by the shortest route."

He comments upon the fact that under the American way Boston, New York, Baltimore and Chicago all offer medical educational facilities quite equal to those of Germany. He instances Harvard, Columbia, Cornell, Johns Hopkins, University of Chicago and the Northwestern University; but at the same time these cities permit schools of the cheapest and worst sort to exist side by side with the good, and he names the Boston College of Physicians and Surgeons, the Eclectic Medical College in New York, the Maryland Medical College in Baltimore, and in Chicago are the Bennett Medical College, the Jenner Medical College and the Herring Medical College. St. Louis does the same, for it offers the newly organized Medical Department of Washington University and, as a contrast, the American (Barnes) Medical College. While this is easily understandable—for no city can say there shall be nothing cheap nor fraudulent within its borders—the next point is less so. In this he refers to the educational insincerity of those universities which shelter under their academic protection medical schools over which they have no control and the ideals and methods of teaching in which may be wholly different from those in the university itself. For example, Bowdoin College has the Main College of Medicine; Marquette University has the Milwaukee Medical College; the University of Southern California has the Los Angeles College of Physicians and Surgeons; Lozota University has the Bennet Medical College; Willamette University in Oregon its medical department, the University of Tennessee and its medical school; Union University and the Albany Medical School; Lincoln Memorial University and its medical school; the Texas Christian University and the Fort Worth School of Medicine; Cotner University and its medical school at Lincoln, Nebraska.

There is no carping in making these two points. The instinct of self-preservation is, without it, recognized and that a poor and inefficient institution will struggle on in the hope that an angel may come who will provide means for betterment and bring the good times that are dreamed of, is acknowledged. This is especially true of those universities which have, from the days of the didactic and quiz era, carried medical schools for which they have been unable to supply means for development and which have, necessarily, fallen behind the procession, but which old association protects from ablation and extinction. And the same instinct explains the frantic struggle and loud-voiced protest of the sham school against laws of any kind so long as the sham is a profitable one.

From this point on, however, there is report of progress, and progress that is very frankly credited to the Council on Medical Education of the American Medical Association in the first place and to the Association of American Medical Colleges in the second place. A list is given of universities that have "abandoned clinical schools which they felt were unnecessary and for whose support they could not hope to provide." These were the University of North Carolina, the University of Missouri, the University of Denver, the Central University of Kentucky, Chattanooga University, and Washburn College at Topeka, Kansas, while the University of Illinois has dropped its clinical years. He notes the improvement of standards, the bettering of the teaching, the larger support and the closer and ampler hospital relations in the better of the existing schools as positive subjects for congratulation. Especially is the Council commended for having taken up the study of the English methods of examination, which are "largely practical in character" and have the tendency to drive out from the schools vicious teaching methods. Then the report comes back, as all reports on this subject must do, to the secondary school. President Pritchett says: "Experience . . . proves that the requirement of a good education as a preliminary to the medical school, exercises a larger influence for good than all other requirements combined. The simple demand that the physician shall be an educated man is the most important step toward a higher plane for the profession." In this special context the Association of American Medical colleges is commended for having so framed its rules that the high school basis for entrance shall not be vitiated by the admission of *conditioned* students or the acceptance of the so-called *"equivalents"*—for no school doing this may remain a member of the Association.

All these gains, and the others that cannot here be itemized, are a comforting offset to the thought of the chaotic state of medical legislation at the

Capitol, and make it clear that medical education, and with it medical practice, and with that the care of the people, may be safely intrusted to universities and to the American Medical Association. Let state governments deal with the subject as they please, let even the central government be misled, as it may be by zealous self-seekers and persuasive perverts, the progress that is reported is proof that in the true universities and in the representative body of the profession the course will always be toward the highest goal, the producing of the best and most useful type of men to care for sick humanity.

Statistics are said to be just as truthful as facts, and so these statistical facts are quoted in full: "The total of 166 schools of all kinds existing in the United States and Canada in June, 1904, has in eight years decreased to 117 in 1912. Homeopathic schools, of which there were twenty-two in 1900, have now fallen to ten; eclectic schools from ten to six; the physio-medical schools have entirely disappeared. The total student enrollment, which reached 28,142 in 1904, has now declined to 18,-412. As the student bodies of the higher grade schools have steadily advanced in numbers, this considerable decrease has taken place precisely where in the public interest it should take place, namely, in the weaker schools. It is thus obvious that the destruction of one inefficient school does not merely result in increasing the enrollment of another; it actually and absolutely keeps a certain number of unfit men out of the profession." The "negative character"—as it is called in the report—of these facts does not detract one whit from their having a positive value in indicating the trend of events. Leaving present forces undisturbed to continue this work and making "sure that standards are genuine rather than higher" in the immediate future will accomplish what is needed quite regardless of any vagaries of any state legislation.

WHEN YOU CHANGE
YOUR ADDRESS, ADVISE US
PROMPTLY.

IF YOU DO NOT RECEIVE YOUR
JOURNAL REGULARLY, LET US
KNOW ABOUT IT.

ORIGINAL ARTICLES

SUMMER DIARRHEA FROM THE STANDPOINT OF THE CLINICIAN.*

By E. C. FLEISCHNER, M. D., San Francisco.

With the wonderful advances that have been consummated in prophylactic medicine during the past decade, one marvels that a more concentrated effort has not been made to limit the frightful loss of infant life due to that horrible result of heat and dirt, the summer diarrhea. As intricate and difficult as the problems may be presented by enteritis and its allied complaints to us, who are fortunate enough to live in this wonderful state, they are mild as compared to what one sees in the congested districts of our Eastern cities.

In a recent report of the Board of Health of the State of New York are some statistics that absolutely strike terror to any one reading them. In one town, and a small one, over 500 children died last year out of every thousand born before they had reached the age of one year. It has been conservatively estimated that 40 per cent. of the number died of summer complaint, and that at least 66 per cent. of these cases were preventable. In other words, 134 babies in this particular town out of every thousand born died because of heat and filth, and primarily by far, the latter cause was the essential factor. Were a similar mortality rate to occur among cattle or pigs or horses, or any commercial commodity, the Government would very rapidly take steps to lower it; and why? Because the people and newspapers would demand it. And likewise why is it not demanded in this horrible slaughter of the innocents? Simply because the people have not sufficient breadth to appreciate the economical loss entailed in this enormous death rate. One might be justly criticized for discussing the lives of these infants from a financial standpoint, were it not definitely evident that that is the one feature within which lies the crux of the whole situation.

At this point it might be well to apologize for apparently digressing from the subject with which this paper has to deal, and yet since the most potent steps in the treatment of the summer diarrheas depend upon the prevention of the condition, a few moments devoted to this phase of the subject are surely apropos. It must not be understood that no effort has been made to stamp out this terrible set of diseases. In this country, as well as in Europe, national and international societies have been formed for the prevention and reduction of infant mortality, and inasmuch as over 25% of this mortality is due to the summer diarrheas, one will understand that attention has been primarily directed toward this particular group of diseases.

A great deal has been written as to what bearing heat may have upon summer complaint, and so many arguments have been advanced to show that there is some direct connection between the two that one must take cognizance of the fact. At the same time, one is struck by the difficulty in answering the following questions:

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* Read before the Santa Clara County Medical Library Club.

1. Why are summer diarrheas relatively so infrequent among the infants of the well-to-do living in hot climates?

2. Why are they relatively so infrequent among babies who are fed upon milk that has been iced from the time of production up to the time of consumption?

Careful thought upon these two very important points leads us to the following conclusion: That high temperatures unquestionably lower the vitality of infants and render them more susceptible to disease, but that the primary effect of the heat is its influence on the increase of the bacterial content of originally dirty milk, rendering it more and more unfit for use. The question of humidity is likewise one which plays an all important part, and this probably explains why California sees fewer cases and less severe cases than one encounters in the depressing moisture of the Atlantic Coast. One cannot refrain from telling mothers of babies that they are fortunate to be Californians after he has spent a summer or two in the hot and humid East.

The intimate connection that the milk question has with the subject under discussion is so close that it is virtually impossible to discuss one without commenting upon the other, and yet there is scarcely any problem so difficult to decide as that which deals with a proper milk supply to a community. Here again, as sad as it may seem, it is the financial side of the proposition that brings us up against a bulwark of stone. The producers are interested, with few exceptions, only in the profit that can be gained; the distributer is likewise interested in this phase of the subject; and the consumer, as disgraceful as it may seem, is primarily interested in how small the cost may be. *It is not often that one finds cause or is warranted in criticizing the efforts of nature, but if ever an error were made in the natural order of things, it was when milk was so made that its dirt content could be manifold without being seen.* One has only to discuss this subject with a lay audience to realize the incredulity with which one's remarks are received, and as small as may be the extra cost of clean milk over dirty milk, those extra few cents are the barrier to the prevention of disease.

One could hardly refrain, in presenting a complete paper upon this subject, at this point from expressing himself upon the question of Pasteurization of milk. The demand for milk as a commodity is so great, and the number of tuberculous cattle is so great, that the most ardent enthusiasts on the subject of pure milk from non-tuberculous cattle realize perfectly that they can never expect the supply to equal the demand, so that we are confronted by the problem of how to have pure milk with the ordinary conditions under which market milk is produced. Until the people are willing to pay for the extra labor, and are sufficiently aroused to demand legislation governing the production of milk, it will always be produced in dirty barns, by dirty milkers from dirty cattle, because we cannot see the dirt. It devolves upon us, therefore, to devise some means whereby dirty milk can be rendered fit for consumption.

Many years ago Pasteur discovered that by raising the temperature of milk, or any bacteria-containing substance, to a certain degree, 160° Fahrenheit, for a definite length of time, twenty minutes, the pathogenic organisms are destroyed. This method of making milk fit for use has been advocated by the U. S. Public Health Service and students of hygiene everywhere, not because it is an ideal method of procedure, but because it is the best method that we have at our disposal at the present time for improving the general market supply. How has this advice been heeded? There is scarcely a large distributer of milk anywhere but who advertises that his milk is absolutely pure because it is pasteurized, and how is it pasteurized? The method of pasteurization as used in commerce is worse than useless. It is absolutely inefficient. The method used is one described as the flash method of pasteurization. The milk is raised to a temperature of 172° Fahrenheit and held there 1/10 of a second. This has been proven absolutely worthless by every laboratory that has investigated the process. It fails to kill either pathogenic or other bacteria. Here again the horrible question of finance is the demon. The apparatus for proper pasteurization is more expensive, and the time consumed and labor required are many times greater. At best proper pasteurization is bad enough for many reasons. First, it gives the farmer and his milkers a false sense of security, and they are not even ordinarily careful. Second, it changes certain chemical qualities of the milk, which is undesirable. Third, after pasteurization the bacteria grow very much more rapidly than before. Fourth, it gives the consumer a false sense of security. With these criticisms upon proper pasteurization, what can one say about the commercial flash method of pasteurization? Only that it is pernicious, malicious, harmful to the worst degree, and responsible for the death of many infants because it is the means of making a few extra dollars for the producer.

How can a proper milk supply be given to a community? In two ways. First, the Utopian method, which will only be mentioned here because, as has previously been stated, the supply can never be produced, is the certified milk, which is obtained entirely from tuberculosis-free animals and immediately iced and kept iced up to the time of consumption. Second, pasteurized milk, which has been pasteurized by the holding method and kept iced from the time of pasteurization up to the time of consumption. Were we able to succeed in having this method adopted, barring laxity in the home care of milk, summer diarrhea would be a disease which we would no longer have cause to fear. Whereas the legislators and those of us who may be classed as medical agitators are the ones who will eventually be the means of obtaining a pure milk supply, incidental to which will come condemnation and ridicule, it rests with the family physician to call to the attention of his patients the importance of the proper care of the milk in the home. This factor is far from a negligible one when one is discussing the question of etiology of summer complaint. Many a case of enteritis has been produced by careless handling at home of a

milk that was reasonably pure when it was delivered, and this particular element of the question must never be ignored in trying to discover the source of contamination.

There is no particular phase of medical sanitation that so thoroughly exemplifies our incongruity as that which allows and demands instant action and investigation whenever there is an epidemic of a milk-bearing disease such as typhoid fever, diphtheria, or scarlet fever, and yet which allows us to remain lethargic and self-satisfied when milk in a more subtle way is spreading destruction and death to thousands of helpless infants. There is surely no more disgraceful element in medicine than the enormous ravages of the summer diarrheas.

If this discussion on prophylaxis has been so length as to be wearisome, and this tirade on commercialism and filth as a cause of disease has been so unending as to have been ineffectual, it will at least be understood that it is from these two phases that the summer diarrheas can be most successfully attacked, and that nothing that may be suggested under the head of therapy can have the same value to the afflicted child as a little precaution may have had in preventing the disease. All of us realize that we are dealing with a type of illness that we can prevent if we are powerful enough to eradicate the cause. Unfortunately, as a profession we are not capable of removing an alarming condition, because in so doing we are interfering with a commercial profit gained even at the expense of infant life. It will take years and years before this all important question is sufficiently understood by the people to make them demand a food product for their infants that is not only too often a death-dealing poison, and until that time we who are over-enthusiastic on the subject will be styled as cranks and theorists who are trying to consummate the production of a pure food, when to the mind of the producer, distributer, and only too often the consumer, it is already good enough, even though every year its toll is thousands of deaths, enormous suffering, unbounded sorrow and lamentation that is felt only by the mother in the loss of her infant.

The gastro intestinal diseases of infancy have been a recognized entity since the time of Hippocrates, and from that time up to the present day much has been done in an effort to understand the etiology, and based upon the etiology innumerable efforts have been made to classify these conditions. To say the least, these classifications have been far from satisfactory. The American Pediatric Society in 1894 made a concentrated attempt to classify the intestinal disturbances of infancy, but the classification was so complex as to be useless. Recently Finkelstein of Berlin, probably the most active investigator of pediatric problems in Germany, compiled a classification and, whereas, it represents a careful and detailed understanding of the subject, it does not offer a very practical opportunity of drawing conclusions as to etiology or therapy. Perhaps for simplicity the old Heubner classification is as valuable as any, and this is based more upon the question of degree and symptoms than upon any well founded principles. He divides the gastro-intestinal disturbances into 1, the simple forms of indigestion characterized by slight diarrhea, some vomiting, loss of appetite, without any evidences of either a severe toxemia or inflammatory processes. 2, the alimentary intoxications, characterized by marked toxemia, prostration, loss of consciousness, high temperature, without much effort on the part of the body to rid itself of the toxic substances in the gastric intestinal tract by vomiting or diarrhea. 3, the true inflammations or gastro-enteritis, the most prominent symptoms of which are diarrhea, with mucus, blood and pus in the stools, with slight rise in temperature, and as a rule not much general toxemia.

Whereas, the summer diarrheas are relatively infrequent in nursing babies, and whereas when they occur they are very difficult to explain, still they are encountered frequently enough to warrant some consideration. As one is justified in diminishing the strength of the food in artificially fed babies during hot weather, so it is very advisable to suggest to nursing mothers that on excessively hot days one or even two nursings should be omitted, and the baby given a feeding of boiled water or sugar solution. It is the common experience of all of us to diminish our diets in the heat of summer, and the lesson obtained from this is very well adapted in feeding infants. We have plenty of evidence to show that the ability to digest strong milk mixtures is markedly diminished during the summer months. The following experience observed in the Nursery and Child's Hospital in New York is a very excellent example of how low fat mixtures are better tolerated in summer than high fat mixtures. During January, February and March of 1906, about one hundred babies were being fed on various dilutions of cows' milk and the gains in weight were far from satisfactory. It was observed in practically all of these cases that the caloric needs of these babies were not being met and that they were suffering from underfeeding. In April of that year there was a change in service and an opportunity was offered to alter the methods of feeding. The fats were increased in all of the cases, and during the months of April and May the results were striking. Every baby gained in weight, slept better, and showed every evidence of thriving. Then came June, and with it an unusually excessive hot spell. One would have thought that these babies had been fed some rank poison. There was an immediate loss of weight, and marked diarrhea, which only subsided when the food was weakened. An examination of the stools in all of these cases showed that the babies were wasting enormous quantities of fat. This upset could have been avoided if the stools had been carefully examined as soon as the warm weather began, because all of these babies were probably excreting an excess of fat in the stools for several days before the actual diarrhea began. It could likewise have been avoided if the general principle had been recognized of diminishing the

strength of the food simply because the weather had become unusually hot. A lesson was taught, however, that was not forgotten, and the importance of this procedure cannot be overestimated. One of the most valuable steps in avoiding trouble in hot weather is not only to diminish the strength of the food that the baby is getting, but at times to substitute for the bottle of milk a plain sugar solution in water. Another very valuable method of avoiding an intestinal upset is to insist upon the milk being boiled on those days when by virtue of the heat it is most apt to be contaminated.

Referring once more to the question of nursing babies, it might be well to discuss briefly the advisability of weaning breast-fed infants during the summer. It is far better to wean a six months' old child in April than a ten months' old child in August. By the time the hot weather comes, the six months' old child has become thoroughly accustomed to the cows' milk, and a little care will prevent much trouble. With the ten months' old child, however, one often encounters the very worst types of summer diarrhea when weaning occurs during the intense heat.

A careful résumé of the literature relative to the treatment of the summer diarrheas is striking in that it offers practically nothing new beyond a few theories that do not always work out in practice. The results that have been obtained in reducing the mortality from these diseases have not been due so much to improvement in therapy as to improvement in methods of prophylaxis.

One point in the treatment of these diseases is of so great importance as to warrant special emphasis, and that is the question of early, prompt and efficacious methods. Only too many very severe cases of gastro-enteritis have occurred because an ignorant mother has changed a simple digestive disturbance into a markedly inflammatory one by the administration of paregoric. One finds, even among the more intelligent classes, the idea fairly well rooted that in case of summer complaint it cannot be proper to cause more evacuations of the bowels by the administration of a purgative when the child is already suffering from diarrhea. One argument that is constantly heard is that starvation and purgation will cause loss of weight, notwithstanding the fact that these two methods are the only ones that we have at our disposal for eradicating the diseased process which may cause death.

Unfortunately, nothing new is being offered to you in this paper. It represents merely an effort to call attention to many old facts, and to emphasize the importance of some that are not commonly recognized. If what has been read and is to be read proves to be too didactic, then the humblest of apologies must be offered.

Mention has already been made of purgation and starvation in the treatment of the summer diarrheas, and it is to the second of these two procedures that rather lengthy and careful attention should be given. Text-books and teachers have laid so much emphasis upon the necessity of starving diarrheal cases that the method has become more of a disease than the original illness. There is probably no single therapeutic effort in the whole category of medicine that has been so thoroughly abused as this pernicious practice. If the adjectives applied seem to be extraordinarily forceful, it is only because the observation of a large number of babies suffering from starvation rather than the original disease warrants them in being so. The general principle may be laid down that it is never justifiable to starve a sick infant over 48 hours, and yet one is constantly encountering sick babies who have been ill one, two, or three weeks, and who have been fed only on barley water or albumen water because the stools remained green. The surprising factor in so many of these cases is that they exist as long as they do when they are being starved to death. It is not usually recognized, but in a large percentage of those cases in which green stools persist for days, they are an actual symptom of starvation, generally called "starvation stools." Everyone who has had much experience with infants will recall cases of newborn babies who were not gaining weight, in which cases the stools were green, and it was assumed that the mother's milk was not agreeing with the child. In 90% of these cases it is not that the milk is faulty, but that it is scarce, and the green stools are a definite representation of insufficient and not inefficient food.

What then is the result of this persistent use of barley and albumen water? It is two fold. First, it so lowers the vitality of the body that it becomes an easy prey to offending bacteria, either the original source of the disease or secondary invaders. Second, the body not having sufficient food, uses up all of the glycogen in the liver, and then must necessarily use up the excess of fat stored up in the tissues. With an insufficiency of carbohydrates the oxidation of the fats is imperfect and there results an acidosis, and later an acid intoxication with the presence of diacetic acid and acetone in the urine and the infant is a victim not only of an extraneous intoxication, but of an auto-intoxication.

The importance of urinary examination in the summer diarrheas cannot be overestimated for several reasons. In the first place, whenever urinalysis shows an excess of acid products, it is an absolute indication that the patient should receive more food, irrespective of the other symptoms. Secondly, urinalysis gives us considerable data from a prognostic standpoint, the absence of casts and albumen being a very favorable sign, and the presence of these abnormal products in excess being very unfavorable. In the third place, urinalysis will often show that the apparent intestinal disturbance is in reality a secondary affair. There is probably no more constant symptom of the colon bacillus infections of the urinary tract, especially in infants under one year, than diarrhea with mucus in the stools, accompanied by high temperature, and it is a common practice, especially in hospital work, to have babies sent in who have been treated several weeks for an intestinal disturbance, which only subsides when the genito-urinary infection is discovered and treated.

Discussing once more the question of starvation,

one naturally asks, "How can this be avoided?" Milk in any form will disagree with these cases for a long time. True, perhaps, but not so essentially an axiom as has been generally recognized. The starvation is best prevented by sugar in some form, and this is always preferably a malt sugar. It is universally agreed now that in the digestive disturbances of infancy the malt sugars play a very important role, and that they frequently produce a gain in weight when milk sugar is absolutely inefficient. For this reason maltose is the carbohydrate that is employed after twenty-four to-forty-eight hours of starvation. Pure maltose is, unfortunately, so expensive as to place it beyond the range of practical use, so that one prescribes one of the prepared foods that is almost entirely malt sugar, such as malted milk. The directions that are usually given in the mild forms of summer complaint are to administer one-half to a tablespoonful of castor oil, give barley water for twenty-four hours, then malted milk, one teaspoonful to one ounce of water, and at the end of twenty-four hours substitute one ounce of boiled milk for one ounce of water in the malted milk mixture. At this point, having mentioned boiled milk, it might be well to elaborate on the value of this substance in the diarrheas. Everyone agrees that the continued use of boiled milk is not desirable, and yet where one has a child who is having three to four greenish, curd-containing stools a day without any evidence of constitutional effect, there is no one step that will clear the condition up more quickly than the administration of a cathartic and the employment of a boiled milk formula for several days.

In the more severe forms of gastro-intestinal intoxication, and gastro-enteritis, the initial steps are essentially the same. More pronounced symptoms call, however, for additional measures, and one can do no better, perhaps, than discuss the treatment of the various symptoms that may present themselves.

Vomiting. After one has assured himself that the persistent vomiting that is often encountered is not a sign of intussusception or volvulus, and is equally positive that he is not dealing with an inflammatory condition in the appendix or other abdominal organ, the stomach tube is one of the most valuable aids in infantile therapy. After the stomach has been thoroughly lavaged, the cathartic can very efficaciously be placed in the stomach through the tube and is usually retained.

Anorexia. Occasionally, either due to a complicating stomatitis, or possibly due to an aversion to food, gastro-intestinal cases will refuse nourishment in every form. There is no type of case more difficult to treat than this one and they are relatively frequent. Here again, in small babies the nasal tube, and in larger babies the stomach tube prove most valuable. Anyone who has used the nasal tube as a method of feeding can recall cases where life has been actually saved by giving nourishment in this manner, and as surprising as it may seem, the technic is most simple.

Blood and Mucus in the Stools. This symptom opens up to us the whole question of colonic and rectal irrigations, upon which one finds a very great diversity of opinion and methods. Upon one particular point, however, special emphasis must be made. The common practice of frequent irrigation of the bowel in all cases of summer diarrhea is a great mistake and unquestionably does much more harm than good. One who sees many of these cases can recall numerous examples of a constant irritation and consequent inflammation being produced and maintained by frequent and persistent irrigations. There can be no question that in cases showing an involvement of the lower bowel, that colonic washings are of value, provided that they are used with judgment and care. It is never necessary to make use of them more than twice daily. What should be used is also largely a question of opinion. There can be no doubt, however, that the chief value obtained from colonic flushing is the mechanical removal of noxious material rather than any direct antiseptic action. It is hardly logical to assume that antiseptic solutions in sufficient strength to destroy offending organisms can be used without at the same time destroying the rectal mucosa. If it is desired to use some preparation having slight antiseptic action, nothing is more serviceable or less irritating than a weak straw-colored solution of argyrol, which has been claimed by some men to have a very excellent action.

Tenesmus. There is probably no more unpleasant symptom in all the diseases of childhood than the frequent, painful small bowel movements seen when the intestinal inflammation is low down in the colon. To relieve this, nothing is more efficacious than two-ounce injections of starch solution, containing an amount of Tr. Opii proportionate to the child's age, used every four hours. External applications of heat to the rectal region will also frequently ameliorate this distressing condition.

Irritation of the Skin Around the Rectum. It may seem strange to have this very secondary symptom discussed, but whereas it has no importance as far as the life of the child is concerned, it is very important as a cause of marked discomfort. This can only be treated after determining the reaction of the stools, more apropos of which will be said a little later in discussing the therapeutic value of buttermilk. When the stools are very acid, local applications of bicarbonate of soda solution will usually check this unpleasant condition, and when the stool is alkaline, local applications of a weak buttermilk dilution, or of boric acid ointment will ameliorate it.

Loss of Body Fluids in Excessive Amounts.

Nothing is much more pitiful to see than an infant who has been sick several days with an attack of gastro-enteritis and who has every earmark of having lost a great deal of serum. With sunken eyes, sunken fontanelle, and with the skin hanging in folds all over the body, not only is he an object of pity, but he is truly an object over which to be alarmed. These cases require large amounts of saline and they require it immediately; nothing meets the requirement as quickly or as efficaciously as hypodermoclysis, and nothing is quite the life-

saver in the severe cases that this procedure is. There is always plenty of room under the skin of the abdomen or axillæ, and in the bad cases 150 c.c. can be given every six hours. Next in importance is the Murphy method of enteroclysis, with which you are all familiar. A simple apparatus for using the Murphy drip is shown here tonight. The important point is not to have the solution enter the rectum too quickly. Fifteen to twenty drops per minute are all that can be absorbed by most babies, and if it is administered more rapidly it will usually be expelled, as is the case with saline enemata that are so frequently misused in diseases of infants.

Cardiac Failure. All that has been said in the previous page on the use of hypodermoclysis can be repeated here. As to the value of drugs in cases of failing heart muscle, that is a point upon which there is considerable doubt. The question of pushing a failing heart is one of the most important in pediatrics, and in the past it has unquestionably been overdone. If the general theory of rest in the treatment of diseased organs is a correct one, there can be no doubt that many, many times the overuse of drugs does more harm than leaving things absolutely alone. If there are any therapeutic agents which are of value, they are three in number—opium, camphor and caffein, their value diminishing in the order named. It is a rather common practice to administer camphorated oil in ten minim doses hypodermatically every 2-3 hours, or caffein citrate in ¼ and 1 grain dosage every four hours, but in opium and rest lie the greatest of all heart stimulants.

A paper upon this subject would hardly be complete without some mention being made of buttermilk, and it is in this connection that the value of litmus paper must be discussed. In every case of summer diarrhea it is important to know what the reaction is of the stools. In those cases in which the invading organisms are of the putrefactive, alkali-producing variety, then buttermilk dilutions are of use in treating the cases after the initial purgation and starvation. The dilutions must at first be weak, and it is advisable to add some sugar to the milk to further the production of the lactic acid bacilli.

In the summer diarrheas, as in all other groups of diseases in medicine, each case is a law unto itself. It is only possible to lay down certain principles of treatment, realizing that they must be modified to meet the individual needs of every patient. Nothing new has been offered in this paper, essentially because there is practically nothing new to offer. In writing it an effort has been made simply to call attention to rational methods as a means of cure, and in this connection in concluding may the great danger of prolonged starvation be once more emphasized as the one grave misconception and error in our knowledge of the treatment of the summer diarrheas.

ON THE RELATION OF THE ACADEMIC MEDICAL SCHOOL TO THE MEDICAL COMMUNITY.*

By H. C. MOFFITT, M. D., San Francisco.

It is unfortunate for us all that engagements of President Wheeler prevent his being here this evening,—it is for you particularly unfortunate that I have been selected to speak in his place. We shall reach a better understanding if, at the start, it is determined what is meant by an "Academic Medical School." It is a question that has been discussed in detail by such men as R. M. Pearce, Cabot, Edsall, Huntington, Barker, Hewlett and that is, in some of its aspects, familiar to you all. For some years it has been a fact generally accepted that the work of the first two years in medicine must be in the hands of men who could devote all their time to their special departments—unhampered by the cares of practice—men who would be teachers but above all investigators, active in the advancement of medical development and knowledge. With the acceptance of this fact began the passing of the proprietary school; no institution dependent upon fees of students alone can long furnish the right men and proper equipment for the work and laboratories of the first two years. With the advances in student preparation and the standards of the first years in medicine, with the tremendous widening of the whole medical horizon, it soon became apparent that instruction in the so-called scientific branches was developing faster than the teaching of the clinical years, sometimes developing even at the expense of the clinical years. The gap widened between "scientific" and clinical departments, and it became necessary to find men with more time to devote to the development of the clinical years. It was realized that, as soon as practical, clinical teachers must be paid for part or for all their time, that the practicing physician could no longer cope unaided with the situation, that the last years of medicine needed the special teacher, organizer, investigator even more than the first.

In the recent plan adopted by the Regents of the University of California it is recognized that men of different types will be needed in the development of the medical school of the future. The practitioner with advantages of experience, with catholic spirit developed through touch with all kinds of men can not be spared. It is necessary, however, to have, as well, heads of departments, assistants, teachers, investigators who will be paid by the University and who can give part or all of their time to the work of the school. It is the expressed opinion of the Regents and of the President of the University that to develop to best advantage all departments of medicine must be kept closely in touch and, in the near future, must be brought together in San Francisco. In order to get the right kind of men it is realized by the University that it is not enough to pay them for their services but that a suitable place must be provided for them in which to work. A hospital is to the clinical years what laboratories are to the first

* Read at the General Meeting of the San Francisco County Medical Society, September 10, 1912.

years and no scheme of development can be complete without inclusion of a hospital and out-patient department directly under University control.

Given such a plant with all departments of the school grouped about it, I would like in a few words to give my views concerning the development on an academic basis of the department of internal medicine which may be taken as a type of any other department. Until recently my opinion was the common one of most practitioners, that a man might head such a department and still give time to outside consulting work and practice, that through help of assistants, trained in different lines of work he might direct teaching and inspire a sufficiently enthusiastic investigation spirit. It is my firm opinion *now* that the work demands a man specially trained in other lines as well as medicine and that it demands practically his whole time; a private clinic should be part of the general University Hospital and give him opportunity to concentrate all his work under neighboring roofs. Such a man may be primarily a teacher but he must be an investigator as well. No productive clinic can be governed by a mere teacher. Men of coordinate rank may be practitioners devoting but part time to University work and their teaching may even be done in other hospitals. Assistants must be paid so that definite work may be demanded from them. Opportunity should be given some assistants to enter the career of teachers or investigators without necessity of practicing and assistants should from time to time be relieved from routine duties and given time for special work. As far as possible I believe men in charge of medicine in the out-patient clinics should be given work in the hospital wards as well.

With all years of medicine together, with the men of the first years realizing more definitely what the student needs for his clinical training and with the clinical men directly in touch with the applications of chemistry, pathology and physiology to the clinic, with a University Hospital and out-patient department at command—with the staff well organized—the student of the future should have far better opportunities than he has now. Instruction in medicine should begin in the student's second year. In the third and fourth years he should be in the wards with increasing frequency. Trained in more accurate methods, encouraged to observe and to think rather than mechanically to remember, knowing himself to be an important cog in the whole hospital scheme, the student can scarcely help cultivating habits of honest work that will influence strongly his professional career. Before long all graduates will serve a year as internes preferably in their own hospital and one great function of a University clinic is to develop the right kind of interne. There is probably no influence so powerful in a hospital or so important in shaping the student's character as a strong *esprit de corps* among the internes. It sets and raises standards of its own, determines what must be done, above all what must *not* be done. Its unwritten laws are more far-reaching than the most stringent hospital regulations.

The education of the community to a proper appreciation of modern medicine and of the well-trained physician is as important a function of the University as the training of students. Standards in medicine cannot be set by legislative acts regulating medical practice. State licenses to practice tend after all to put all physicians on the same level. Medicine must emerge from the mystery and mysticism of the past and the public must learn more of the work and ideals of medical men —it must be taught to discriminate between good and bad doctors, between good and bad hospitals. A good hospital plant with proper staff, nurses, internes and students can be made a powerful educational factor in the community. Lectures, even clinics, should be offered the public. Social work starting from the hospital and out-patient department can help tremendously in disseminating the teachings of preventive medicine. The academic medical school should encourage its graduates to return from time to time to keep in touch with advances in medicine. It should provide fellowships that will enable investigators to pursue original lines of work. It should offer clinics, lectures and chances to do special work to the local profession; it should welcome advice and honest criticism from the profession at large. Through summer schools, with the advantages of our climate, opportunity might be given to many physicians of the coast to do laboratory or clinical work or to work out special problems.

But these benefits are after all small in comparison with the indirect results possible to obtain through education of the public and through raising of standards of instruction, of students, of graduates, of the profession. Animosities die away, men pass and the question of the academic medical school may be decided in future by results and not by the personal factor. Can laws of shifting legislatures or regulations of medical societies compare with the influence in a community of groups of men with minds trained by preliminary study, in touch with work done in the best ways, strengthened by student, hospital and University traditions, on fire with the spirit of scientific truth and honesty? The two big Universities of the coast have no selfish aims in the development of academic medicine. They, with other institutions of our country, have started on the long road that must be traveled, they will smooth and straighten it with encouragement and financial aid, they trust the medical profession will travel upward with them.

Discussion.

President Jordan: You understand, of course, that I am a medical imposter, so do not expect me to tell active physicians anything of medicine they do not already know. I took my medical degree with Harvey Wiley 37 years ago, when bacteriology had not escaped from the Greek Lexicon, when germs and microbes were undreamed of, when pharmacology was a branch of metaphysics; and obstetrics and surgery had neither anesthetics nor antiseptics to aid in their successful work.

I am going to speak most of the time about something else, but I want to say first that I am in the fullest accord with everything that Dr. Moffitt has said. I believe that the day of the proprietary medical college is past, that it no longer

serves any useful purpose whatever, and that the medical college of the present, to say nothing of the future, must be the university medical college, of which distinctive quality is that it belongs to the public. The proprietary institution may be tempted to keep things to itself, to work in the interest of the men who assume its control and pay its bills. The university medical school belongs to the whole public; it is open to everybody who is fitted to make use of its advantages, and its function is to help the whole community in every possible way. The university medical school cannot be merely an appendage to the university—it must be an integral part of the institution. We all recognize that modern medicine is founded on chemistry, bacteriology, physiology and other fundamental conceptions of science, and that it is impossible to make any progress without these conceptions. The clinical instruction must be of the same advanced character. The clinical professor must use the language of the scientific man. He must think and speak in scientific terms. To make his work join on with this elementary work, he must have done this work himself. His explanation of diseases must rest on exact knowledge of the human body, and of the forces which enter into its functions. I think the control of the modern medical school of the university must be essentially with the men who give their time and thought to it, men to whom research and teaching are the breath of life and who are willing to give up the paid practice of medicine for that purpose. It should not rest with those to whom teaching and research are outside interests. It is desirable to have all teachers paid—everyone connected with the work should be paid something; but men who are paid comparatively little and devote a comparatively small time to teaching should not control the affair. The work should be in the hands of men who are putting their whole life and strength into it.

In teaching chemistry, we could make use of the visiting chemists coming in from various establishments to give lectures, these might be very helpful; but it would not be good teaching. To teach chemistry we must have men to whom this is the first work. We are gradually increasing the number of paid men in our medical schools. Of course, pay must be adequate, not only because the men demand the money, but because adequate pay is essential to adequate living. It is getting less and less pleasant to starve to death on a small salary. It is less effective than it used to be, and we all have the right to wish to be effective, to make our lives count something in whatever we do.

The medical college is distinctly useful to the community through its relation to the community, and in its relation to the general practice of medicine. Its laboratories should always be open to medical men, for any purpose of information or investigation. Physicians ought to find in the medical schools men who have ample leisure to investigate difficult questions. The more thoroughly trained a physician is, the more difficult these problems are. Problems in pathology are easy mainly to beginners. It is the work of the university medical school to furnish men with time and willingness to enter into these investigations. In connection with the hospital, which is the clinical laboratory of the medical school, the physician should find well-trained internes capable of helping out with various problems.

A while ago I made a study that interested me and may interest you. It is a study along these lines. Schools of medicine are built up on the treatment of symptoms, not on the treatment of disease. When we come to try to remove causes of disease, we must deal not with symptoms but with facts. In dealing with symptoms we find that they can be greatly changed by changing the patient's judgment of them. If by symptoms only we know disease, then to persuade the patient that there are no symptoms is to eliminate disease. If we can cure disease by a drug that creates similar symptoms, or by one that creates different ones, we may also cure it by feelings or thoughts which do the same purpose. If there are no symptoms, there is no disease. Hence as symptoms are evanescent, disease is non-existent. To this theory of medicine and healing I gave some years ago the name of Neminism. (Note Dr. Jordan did not submit his paper for publication in the Journal.—Ed.)

Dr. A. A. D'Ancona: The development of medicine and of medical education in California is illustrated by the appearance of President Jordan here to-night. I remember some years ago, when our medical school was merely allied to the University, I met a regent one day—Arthur Rodgers, now dead—who took pride in the statement that the Board of Regents had kept faith with the medical faculty and had never interfered in any medical affairs. It seems that when the medical college was given to the University of California, the Board of Regents adopted resolutions that the faculty should have complete control of its affairs, and Mr. Rodgers meant that faith had been kept because they had kept "hands off." The appearance at this meeting of the President of a great University, acknowledging medicine as a great and essential part of university activities, shows the complete change in the relation of university executives to medicine. Instead of looking upon medicine as Rodgers and his colleagues did, as a thing absolutely apart from the University, the presidents of our universities to-day look upon medicine as in the foreground of university activities.

As the president read the nonsense about Neminism I thought that in the past medicine itself had been just as fantastic; it jumped to conclusions and founded its dogmas largely upon words. In the old days, we were satisfied that if there were inflammation in one eye, it would pass to the other "by sympathy." What were these statements of sympathy and metastasis except Neminism in a different form?

It seems to me that even now, when the universities are planning to take medicine within the fold, they are still only in the transition stage. Perhaps you all think that a medical school which has no practitioners on its teaching staff is impossible, unsound; that it is a Utopian dream to say that the ideal medical school is one that is manned by teachers and investigators, none of whom is a practitioner. I feel that in future that is to be the real medical school. We have never had a medical school of that kind; we have always had schools manned by practitioners; but I venture to prophesy that the ideal medical school of the future will be controlled and conducted absolutely by men who give their lives to teaching and research. Teaching and research must go hand in hand in medicine as in every other field.

I think if we look over the progress of learning in the development of universities, we can see why we still cling to the idea of practitioners being the ideal teachers. Modern learning springs from the Middle Ages, from the time when the books and works of ancient civilization were found. The learning of the age was deficient, in view of the civilization that was unearthed in those records. Ancient art, science and learning were so far in advance of the Middle Ages that it was perfectly natural for the people of those days to worship the past. So for several centuries learning turned its eyes to the past. In the course of time genuine science outstripped the universities, and finally broke into university life, until now it is true that science is becoming predominant. We now look upon the university, not as a place for hermits, but

for workers, for men who want to produce something.

I remember hearing President Jordan once say that science is organized common sense. If men are willing to devote their lives to the pursuit of science, to teaching, with no special thought of income, there is no reason why the pursuit of the science of medicine should not be equally fascinating. You may say that the men will be academic; but what do you mean by academic? The academic man to-day is no longer an intellectual recluse; he is a productive scientist. I remember reading some time ago of a man in ancient Athens, who devoted himself to cutting cones in various directions and studied the relations of the points in the resulting curves. It was a purely intellectual amusement; he did not expect any utilitarian result; but the mathematics of the conic sections today is the basis of astronomy, of physics, and of navigation. He was more practical than his contemporaries. The early studies of Pasteur which led him into the so-called germ theory of disease were upon crystals—he studied the deflection of polarized light by tartaric acid crystals. These studies seem frivolous, but the result was far more practical than the work of the so-called practitioners. They were the basis of modern medicine.

If we begin to have medical science followed in this way, to encourage men to study solely for the love of truth, there is no reason why men should not devote their lives to such work. It is not true that men are going to be satisfied solely with money as a return, and men like Pasteur are just as likely to be found in the medical schools as in pure science. So I consider that while the two great universities of this coast have made giant strides in medical teaching, by having a great number of trained scientific men and non-practitioners, and practitioners to a certain extent, they are still in the transitional stage of development, and in the end, from the lowest to the highest of their medical teachers, they will have men who will be wholly within the university and be content to be so.

Dr. R. L. Wilbur: I took it for granted that between Dr. Moffitt and President Jordan all of the essential features would be taken up, and now that Dr. D'Ancona has presented the more idealistic point of view, there is very little left for me to say. It interested me very much to hear that Dr. Moffitt has come to believe that such a department as that of internal medicine must, in the University Medical School, be controlled by individuals who devote all their time to the development of medical teaching and research. I think we are all agreed that in university medical teaching there is now a large part to play and will be for at least a long time, for the clinical man, as Dr. Jordan has called him—that is the man who practices medicine and incidentally teaches. We may reach the stage which Dr. D'Ancona has mentioned, but our generation will continue to find the practitioner a prominent factor in our clinical teaching.

There are a few points Dr. Jordan brought out in the relation of the university medical school to the medical community that will bear elaboration. I consider that one of the functions of the university medical department is to supply a place for the study of complicated cases by the practitioners. You know that the very poor and the very rich get very good medical care, but the so-called "middle class" gets comparatively unsatisfactory attention. They usually want to pay their bills and their capacity to meet the expense of elaborate medical study is often limited. Some of the most interesting work in practice occurs in these cases, and I see no reason why they should not be sent to university hospitals for study and investigation. The feeling that so many have—that clinics are only for the poor—will pass, and many individuals, if properly guided, will submit themselves for study and investigation by students and teachers in properly controlled institutions. This will offer an opportunity to the sick in the community and to the medical practitioner who can by following his patient into the hospital, get in touch with the rapid development of medical science. It is an opportunity of which the practioner should avail himself. The medical department should maintain a group of experts in bacteriology and pathology, general diagnosis, etc., who may be called upon for any help that may be required. If there is a tendency for university medical schools to keep apart from the medical profession, medical education will not be advanced as it should be, and in San Francisco it should be the aim of all the men in the profession to keep closely in touch with the medical schools and to send to them cases that are interesting and valuable for instruction, and go themselves to study and follow the care of their patients. University medical departments should no longer be looked upon as were the proprietary schools, but should be considered as belonging to the medical profession as a whole, and as such they should be helped in their work and be asked without reserve to render assistance whenever they are able to do so. I should like to congratulate Dr. Moffitt on the thorough manner in which he has covered the subject and to agree with him in most of the points that he has presented.

Professor F. P. Gay: Of course, the writing has been on the wall for some time in respect to the future of medical teaching. As Flexner has recently said, "The teaching of medicine is no longer a professional, but an educational matter." It is only reasonable that men who teach should devote their entire time to their work in order to be most effective; if two men have equal ability, the man who devotes his entire time gets better results than the man who devotes only a part of his time. That the field of medical education, properly speaking, has only recently come to include the clinical branches is not the fault of the practitioner, but of the university. The practitioners not only have had proper ideals, but furnish opportunities to those who have been able to devote their entire time to medical science; and the zeal with which men who have been trained to practice are willing to undertake teaching is to my mind a most admirable thing. Men trained in clinical branches are undoubtedly coming to take pure academic positions. There are already a few instances of men in this country who hold chairs in the clinical branches of medicine, who have never practiced, but they are still very few. It seems perfectly obvious how the future lies in regard to the clinical men in academic medicine. I do not know that I would go so far as to say that all men should be non-practitioners, but I have been interested in finding from men who still adhere to practice what reasons they allege for the statement that good clinical teachers must be practitioners. I have never heard but one apparently plausible reason, which is that there is a certain contact with the patients which a man can gain only by private practice. Several individuals have made this statement to me. They say that practice helps them to tell their students how to approach people of this sort. But of course no one pretends to take his students to see his private patients. No student can be taught, indeed, how to approach the wealthier class of his patients, and why there should be a distinction of class I do not see. I believe not only that patients in the hospital should be approached in the same manner as private patients, but that eventually many of the classes of patients that are not now found in hospitals will come there as they appreciate the greater advantages of treatment in such institutions.

Dr. W. W. Kerr: I was unfortunately unable to be present when the papers were read, but from the discussion I infer that the old question is up again as to whether clinical men should be de-

barred from their practice and their work entirely limited to that done in the hospital as men on the teaching staff. Personally I can conceive no happier life to anyone interested in medicine than the clinical life spent in a hospital, and freed entirely from private practice. It is ideal. It reminds me of a remark made by Dr. Swan, formerly Professor of Diseases of Children in the University of California, who said: "Don't you wish you had time to study medicine?" I think that is what many of us feel. The question is, however, as to whether it is the best qualification for teaching the men who are going out into the world to practice That is a matter that has been long under discussion and has been carefully thought out by quite a number, and the objections are not those given by Professor Gay. We feel that in a very large number of cases, when the clinician can afford to give his time, he is inclined to be more or less a faddist; he is inclined to take up some one particular line and follow that to the neglect of other branches; that he is continually imbibing the work which is nearest his heart and teaching that alone to the students, possibly next year contradicting it and giving them the benefit only of the observations he has been carrying along at the bedside. They grow to be rather narrow. On the other hand, we feel that the man who is teacher and at the same time is doing outside work is mixing to a great extent with the men of the profession; he knows the wants of the great mass of the people as they live, not theoretically in the hospital, but in their homes and in their workshops, and knows the difficulties the practitioner will have to contend with among rich or poor; consequently he does not get narrow. Everyone has felt that he would give everything to take up some particular subject, to study it out exclusively, but the practitioner has no time to do this.

To my mind scientific medicine means nothing unless it gives relief to humanity, and the question comes to us: "Are we going to teach these students better by being recluses, living in a hermit's cell, enjoying ourselves without doubt, and looking out and pitying the misfortunes of others; or will we be better able to teach them if we mix daily with our patients, knowing their every-day wants and knowing the difficulties of the practitioner?" It was all so easy when we were in the hospitals, where everything is carried out for us, but it is much more difficult when we come to practice medicine! You do not always know how you are going to practice medicine! I believe thoroughly that there is scientific work in medicine—physiology, pathology, chemistry, and other branches that must be done by the men who give their time exclusively to that work. When it comes to the clinician, it seems to me he is putting into practice those great facts he has learned in the scientific departments. I do not think he is going to be able to do this to the best advantage unless he knows how and where they must be applied. I am not going to the other extreme and say that clinicians should have a large amount of practice to attend to, but the question is, should he be debarred entirely from practice? There is no doubt that the way we have had to work for years giving up our time to the work that has been done, and earning our living, too, has not been ideal even for the clinician. Teaching would be a great deal better if practice could be limited and each of the clinical departments placed under the supervision of a medical director who devoted his entire time to that work. But I believe that the student will get better teaching for the practical work that he is to do, if connected with each school there are certain men who are to a limited extent in active practice of their profession, right out amidst the people.

Dr. Langley Porter: I have little to say except to endorse what Dr. Kerr has said. One point that should be remembered is that the university's debts are more than the mere turning out of practitioners, no matter how scientific-minded they may be. As a center of scientific thought, not the least of its obligations is to train the community in sociological and preventive medicine; among its debts is research and teaching along these lines.

If all the men engaged in teaching lead an academic life entirely apart from the life of the community, the university must fail in the payment of this debt to the community of which it is a part.

There is no doubt that two classes of teachers are needed: full time heads of departments, and part time clinical teachers. Without the first, organization and academic standards are apt to fall below the best; without the latter, the proper coordination of the university with the social life of its community is impossible.

Dr. D'Arcy Power: The only value of anything I can say is perhaps dependent upon the fact for a long time I have had a reasonable opportunity of watching a large number of men who have been trained in the different medical schools and who have sought to pass our State Board examinations. Thus I know fairly well the ways in which medical education has failed. It is by noting the failures that we can make something like provision for better conditions in the future. It has been my privilege in the last three years to know fairly well the mental makeup and educational equipment of something like 200 men from all kinds of colleges, from the worst to the best. Certain facts have come out so clearly that I am convinced that they are of primary importance.

First: The teaching in the colleges is not correlated, each subject is taught for itself, consequently the graduate fails to correlate his observations and his knowledge, and fundamental reasoning is impossible. I find few able to make some scientific deductions. This is one of the great weaknesses of medical education and must be remedied in teaching the elementary subjects. There should be better correlation of the work so that men shall think in a scientific way.

Second: There is not sufficient training of the power of observation. The men of 50-60 years ago were better trained to observe than the men of to-day, and that is one of the reasons we must have men with the actual experience in practice as teachers. The teacher of senior students must be a man not only trained in the scientific spirit, but able to apply it to training of the observation. He must look for the smaller things and try to interpret them. We need a different system than we have at the present time. Men must be taught to see from the beginning the value of their studies and that is what most of our men do not. Finally, the average practical knowledge of diagnostic technic is disgracefully low.

Dr. Richard C. Cabot, Boston: The question is, I believe, of the rightful relation of an academic clinic to the medical profession and to the general public.

In the first place, what can the clinic do for the doctor? We have had within the last three years at the M. G. H. four courses for graduates, for which there was practically no fee ($5.00 for each month's work). In these courses the object was to get the general practitioner in close touch with our hospital work; to have him bring cases, specimens, and problems to study. Each course comes once a week during the year, at hours when the physician can come, and we find that they are taken advantage of very quickly by a large number of physicians. We feel that if physicians will come and question us, will put their problems to us, and bring their specimens, it will help us and help them. Demonstrations of methods and new instruments, clinical methods, autopsies, and especially autopsies with a printed record of the case for each physician present, we find of great use. Once a

week we take all the autopsies that have been done, print their histories, physical examination, laboratory examination, in duplicate, and with them in the hands of everyone present we read them aloud and discuss the cases. We do not know what was found at autopsy—we discuss what ought to be found from the facts of the histories. Then the pathologist brings in the organs and throws us down or holds us up, as the case may be. The practitioner gets over any exaggerated respect he may have for us! The clinical exercises are also essential, and the demonstrations of methods and operative exercises are useful, although surgical operations furnish less of value because, as you know, if one is to learn from an operation it is necessary to be at the side of the operator and to see the wound. I do not feel that one can do very much in teaching surgery by surgical demonstrations. As time goes on we can develop our usefulness further until physicians will get into the habit of bringing to the clinic selected cases, and sometimes case histories or particular points about cases. We are there to solve problems when we can, and we want those problems from the general practitioner.

What can the medical public do for the clinic? It can furnish cases, histories, specimens. The hospital depends upon the medical public for such co-operation. It is for the good of both hospital doctor and outside physician to furnish such material. We welcome physicians at the bedside, to question us, to get all they can from the cases. This is what every university clinic should and will do.

What will the university clinic do for the general public? It will furnish a standard of proper medical practice. It can furnish that because of its laboratories, its organization, its co-operation among specialists. It wants to put these methods and standardizations at the service of the public. I have done a busy general practice in my time, and I know how the busy practitioner is handicapped. We can furnish the public with an example of team work in medicine.

The public has begun to find out that modern diagnosis and treatment mean team work. If a man has rheumatism, he is sent to the G. U. man, the naso-pharynx and antrum are examined, and the orthopedist sees him before we know what the diagnosis is. Even if a man is wealthy he cannot afford this.

Medical services are getting too expensive. We must meet that by banding ourselves in groups so that the patients can get a group diagnosis for a moderate fee. At the Mayos they have a group of specialties, and that is what we do at the hospital. I believe that the public is beginning to appreciate that team work is just as important in medical examinations as in surgical operations, because laboratory examinations and special examinations are now a part of the general diagnosis. In that way I believe we are going to command the respectful regard of the public—its support, and the readiness of the people to come from any distance. I do not think any university clinic can be supported unless patients come from a long distance. To the University of Michigan clinic (Ann Arbor), people come from all over the State of Michigan; to Johns Hopkins, from all over the country south of Mason and Dixon's line. That is what the university clinic ought to be, and will be by furnishing a standard of medical service, using all the opportunities for good work which the hospitals furnish, and keeping up to date in every respect.

I would be glad to answer any questions if there are any.

Dr. Alvarez: I think we would all like to hear a little about the social side of the work in which Dr. Cabot is so interested.

Dr. Cabot: I feel that the university clinic can set an example and standards in this respect as well as in others. I think we all know that medicine is mixed up with every kind of social problem. This is especially true among the poor, but not only among the poor. You start to talk to a neurasthenic and you find you will have to learn many other arts besides medicine. In dealing with the poor in dispensary clinics you spend the best part of your time and skill in making the diagnosis, and your treatment does not amount to shucks. In New York and other places, patients are thoroughly studied in the outpatient department and carefully diagnosed, but no treatment that can match the diagnosis; and I have seen men discouraged and slipping into slipshod methods. I believe that any of us physicians will put out efforts if we believe that we really accomplish anything thereby. We know what we ought to do, but cannot always do it. We know a man has tuberculosis and needs food which he cannot provide. We give a man a tonic for his appetite because he is not eating enough and we find that the only trouble is that the tonic makes more appetite for the food he has not got. We have the important problem of the unmarried pregnant girl, who comes to the hospital and finds out the most terrible fact that can be known to woman, which may lead her through abortion and down to prostitution. Dr. Brown told me of a case of his at the Polyclinic with gall stones. He could not persuade the patient to be operated. If he had had a social worker, she could follow that case up and perhaps persuade him. If some totally dispassionate third party can persuade the patient to do what he ought to do, we should then see our diagnostic efforts not wholly wasted. We start in to give the patient treatment, and we run up against a stone wall because of financial conditions. The social worker is a trained expert in dealing with misfortune. There is nothing that will give to academic clinic a better standing in the community, and render the hospitals more popular, than the assistance of social workers in the clinic. The patient gets not only what he asks for, but a great deal more. They go complaining of stomach trouble, which is merely a manifestation of home troubles, overwork, need of vacations, etc., and what they want is relief from these problems, but they do not know this. The drug won't do it in a vast majority of cases. When they find that somebody takes a human interest in all their problems, it builds up the clinic and teaches the doctor a lot of things. I have learned fully as much from the social worker as from medical teachers. I never before appreciated what an amount of good there is in the community—especially among the poor. It makes it more interesting to practice medicine, not only because of the good results, but because we see so much more good in human nature.

TREATMENT OF SPIRAL FRACTURES OF THE TIBIA.*

By CHARLES G. LEVISON, M. D., San Francisco.

The object of this paper is to lay down specific rules for the treatment of spiral fractures of the lower third of the tibia. The subject is of great importance, for the condition is one of the most difficult to treat in the category of fractures.

In order to dispose of one phase of the situation I will admit that most surgeons believe that all fractures that can be treated conservatively should be so treated, and that good alignment with indifferent approximation that will result in restoration of function is all that can be expected. This in

* Read before the California Academy of Medicine, September 2, 1912.

my opinion should obtain with individuals who are not wage earners, for in this class, as has been frequently pointed out, the return of function to a limb where the bone has healed by secondary union is much delayed, while on the other hand when the fragments have been perfectly approximated the bone unites by primary intention without the formation of callus with the consequent shortening of the period of incapacity.

When the bone unites with the formation of a large mass of callus, restoration of the function of the muscles is slow, and as the callus exercises pressure upon the neighboring structures, there are many phases of this slow convalescence that should not be lost sight of.

Another point in the pathology of fractures that cannot be emphasized too frequently is that when fractures are set immediately after the injury, it is often very easy to replace the fragments, while if the manipulations are carried out several days later approximation is often impossible. This is not due to the natural contractility of the muscles but is due to the blood that is coagulated in the injured muscle which then remains contracted. It is important to recognize this because of its bearing upon the treatment.

When operation is performed early before the muscle has become hardened on account of the blood coagulated within, only a small incision is necessary as the fragments are still very movable, so that it is much simpler than when operation is performed at a time when the structures are indurated and more difficult to approximate.

Spiral fractures of the tibia are generally operated at a late date because of the usual futile attempts that have been previously made. It requires some experience before the difficulties in connection with its reduction are appreciated.

Satisfactory approximation even after a tenotomy of the tendo Achilles is frequently not obtained and a great amount of callus will form between the fragments and if these are not too widely separated union may take place; if the fragments are far apart despite the fact that a large amount of callus is thrown out, pseudo-arthrosis may result. Even if this is not the case and union takes place there is a great amount of lymph stasis in the muscle which promises a long and tedious convalescence. While this may be satisfying enough to the individual who is not dependent upon his daily wages yet to the man whose family depends upon him for support, it is a very important consideration.

Four days, in my experience, should be the time limit and then if reduction is not satisfactory operation is indicated. The operation is very difficult on account of the position of the fragments. The lower fragment is jammed backwards under the upper fragment and it is held down by indurated and contracted muscles and tissues. The upper fragment is seemingly pushed anteriorly on account of the depressed position of the lower fragment.

There is a considerable amount of trauma produced before the lower fragment can be mobilized and brought into apposition. Each time that I have operated upon a fracture of this kind I have determined never to resort to operation again on account of the difficulties experienced, so that I would always advocate conservative means if possible. On the other hand if surgical intervention is resorted to, it should be employed shortly after the fracture has been produced and before the changes above described have resulted; if this is done a small incision with a moderate amount of manipulation will permit easier reduction.

This is the only fracture in my opinion in which the Esmarch bandage should be employed, for here the fingers should not be introduced into the wound as the sharp spine of the ends of the fractured bones makes puncture of the glove easy.

In compound spiral fractures of the tibia with depression of the lower fragment the injury to the skin is produced by the sharp point of the upper fragment; this condition can only be corrected if the lower fragment is brought into position so that healing takes place. As compound fractures preclude surgical intervention my practice is to chisel off the lower end of the protruding upper fragment as soon as the danger of infection has passed and the skin should be united by sutures so that if necessary, operation can be performed as soon as the skin has healed; if this is not done the skin is not inclined to heal on account of the sharp projection of bone, a condition materially complicating the result.

Summary: Spiral fractures of the tibia should be treated conservatively and if satisfactory approximation after tenotomy of the tendo Achilles has not been obtained after attempts have been made and controlled by the X-ray over a period of four days, then surgical intervention should be resorted to; four days should be the limit for after this time operation becomes more difficult.

2. Operation should be performed with "Esmarch" which permits it to be done by instruments alone, for in this particular condition the gloved hands should not be introduced on account of the sharpened ends of the bone which may perforate the rubber glove, thereby increasing the danger of infection.

3. In compound spiral fractures of the tibia the lower end of the upper fragment should be chiseled off as soon as the danger of infection has passed and the skin united, thereby converting the compound fracture into a simple fracture and materially shortening the period of convalescence.

4. In the laboring man no attempt should be made to treat this fracture without operation.

Discussion.

Dr. S. J. Hunkin: While Dr. Levison in my opinion has in the main made axiomatic statements, there are a few things in his paper with which I would not agree. For instance, I would not operate under an Esmarch, for I think you favor infection by so doing. I think that anything that makes for a great deal of bleeding, and clotting, afterwards makes for infection. Again, personally, I would rather get better approximation, and run the risk of tearing my gloves, particularly if my hand was clean and the gloves were not

filled with dirt, as they insist upon filling them in most operating rooms these days, for talcum powder to me is dirt even when cooked, and is not well taken care of by bone. Any piece of bone which I can not get into alignment, I cut off, whether on the upper, lower or middle part. I do not cut the Achilles tendon. Personally, I think it is bad surgery to cut any tendon unnecessarily, or to cut anything we do not replace, and I think fractures can always be brought into apposition just as well without, as with tenotomies. I agree with Dr. Levison, as I said at a meeting of another medical society, that the better the approximation, the less callus you get and the quicker the healing takes place, and the more still the bone is kept during the proper period, the quicker the union and better the result.

Dr. Levison: Concerning Dr. Hunkins' statement about the Esmarch bandage: In a paper that I presented two years ago I brought out the point that I did not think that under ordinary circumstances that the Esmarch was indicated; on the contrary I think it does harm, but just in this particular operation where the bone is so depressed and where alignment is difficult to obtain, in my opinion the Esmarch is indicated but it is the only fracture where it should be employed.

As far as tenotomy of the tendo Achilles is concerned I agree with Dr. Hunkin that I have never succeeded in accomplishing anything as a consequence of the tenotomy. I only advocate its employment because it has been suggested by others and not on account of any particular result that I have seen.

A PHYSICIAN'S VACATION.

By DOUGLASS W. MONTGOMERY, M. D., San Francisco.

It was urged recently in an editorial in this JOURNAL that every physician should take a holiday, else he might become a "stale" doctor: A stale medical man in these aseptic and bustling times would be a grave misfortune, especially to the "stale" one. Shortly before the appearance of the aforesaid editorial I, with my wife and daughter, went on a health-seeking expedition into the Sierra Nevadas, and behold some of the experiences that we underwent there.

We outfitted in Three Rivers, where we arrived on the noon of a very hot day after a long railroad, trolley and stage ride. We were advised to go up the Kaweah to Hockett Meadows and down through the National Forest to our point of departure. We had intended going into the Kings River Canyon, but were told that we would get good fishing and fine scenery along the Kaweah. We got the scenery but not the fishing.

We started with a bang. The store at Three Rivers has a stoop in front of it, the height of a wagon bottom, for the easy transference of goods. I noticed as I entered that there were a number of iron rods on this stoop, and made a mental comment that some of them might fall off. Shortly afterwards I heard a racket of falling iron and knew that the expected had come. The stage horses nearly ran away, and a moment afterwards our cook stepped into the store and said our mules had bolted, and one of them, with a box of eggs insecurely fastened on his pack, was peddling these up the road. The mule was gathered up, but not the eggs. Finally, as the afternoon was wearing late, our party, consisting of a packer, a cook, nine pack and saddle animals and our three selves, moved out with great expectations along a very dusty road. Alphonse Daudet in his delightful novels of Southern France continually remarks that sunshine, dust and the chirping of crickets are inseparable. If you will have sunshine he insists you must necessarily have dust, and the dust of California is of that fine impalpable nature that rises up in a golden cloud, and enters every little pore and crevice. I do not know a finer sight than a slowly moving ox team with their swaying gait, powerfully bent to a great load of logs, hauling it along a deep dusty road in the giant redwoods. The dust gives an indistinctness that accentuates the powerful lines of the picture. I do not think that our mules and pack animals developed quite such an impressive scene, but we made progress and finally arrived at a camping place beside a running stream. It was suggested to throw the tent across the stream in such a way as to make a bathing house. A bath in running water, just cool enough to be bracing, was just the proper thing to remove the dust and perspiration of the hot day, and the ache from the limbs unaccustomed to riding. Having a cook to prepare our meals was also a luxury. This cook made flapjacks, excellent ones, and these flap-jacks together with our appetite made a fine combination. After our meal and bath we turned in under the open sky as is the custom in California. One of the agonies of camping is sleeping on the hard ground. It is impossible to do away with all inequalities, and some stone or other is sure to insert itself between your ribs, and before morning you feel that the whole earth is coming up through your body. We had anticipated this, and had provided ourselves with air mattresses. These mattresses were the final and culminating point in our luxuries; like the cream to a strawberry. In getting them it is necessary to see that they have mattressed sides, else they are as hard to stay on as a Swiss bed.

There are very few sights in the world equal to awakening in the early morning under the blue sky. The retina has had its night's rest, and is especially sensitive, and it is an unutterable joy to look up into the deep blue vault. It is the time of day to appreciate what that most intellectual of peoples, the Greeks, meant when they made Pallas Athena the goddess of the upper ethereal air, and called the blue sky the eye of the goddess. The Greeks seem to have been more impressed with the beauties of nature than any other ancient people, and this is one of their finest touches. The next night we camped on a wooded platform overlooking the South Fork of the Kaweah. Myself and the packer went fishing, but as I was a tenderfoot, and as the stream was very rocky and my

knees were nearly twisted asunder by the unusual exercise of riding, I did not go very far up stream. It was possibly because of this and of my lack of art in fishing that I had no success, for the part of the stream whipped by me was in the neighborhood of a cavalry camp, and these young fellows had probably caught all there were to be had. The packer went further down stream and had better luck. This mess was the first and last caught during the whole trip.

The cavalrymen at this station were mostly boys, nice looking young fellows, and well equipped. The equipment and the horses are a standing credit to our government. The politeness and eagerness of the men to do everything they could for us was a trait common with them and with the other government employees we found in the park. The sergeant in charge was particularly proud of his arms, a good trait in a soldier, and he took great pains in showing the rifles, and anticipated great pleasure in the new Colt's Automatic .45 pistol they are shortly to receive. This large calibered pistol is an excellent change from the smaller calibered one. I first learned to appreciate a large calibered small arm when house surgeon in the old Chamber St. Hospital in New York. I there saw clearly that a small calibered arm was incapable of stopping a man suddenly. In close range work the stopping or stunning of a man is of the very first importance, and mass has more to do with bringing about this result than velocity.

One of the enjoyments of a mountain trip of this kind is the beautiful sweet water of the springs and rivers. We are accustomed to call such water pure. It is anything but pure, and this is the very point. Pure water is not alone disagreeable, but unhealthful because of osmosis. In order to be healthful and agreeable, water has to be impure enough to approach more the osmotic index of the body fluids than distilled or rain water does. It is now well known that pure water thrown into the circulation is a violent poison. One of the springs in Gastein is called the "Giftbrunnen," or poison spring, and on analysis it is found to be absolutely pure water. Natural ice, being pure, is harsher to the mucous membranes of the mouth and stomach than the more quickly frozen, somewhat salty artificial ice. I remember as a boy how it pained my lips and tongue to suck such icicles. The water of mountain streams contains many salts, and the slimes from the water dwelling animals and plants. It has still another quality not possessed by distilled water. By tumbling over the rocks it is well mixed with oxygen that gives it an agreeable liveliness. Such water is very healthful, and it is well that it is so, considering the huge quantities drunk by an office man on going green into the mountains. This elimination of water in summer in this region is for the most part insensible, because the clear, dry, atmosphere favors evaporation from the skin and from the lungs. In fact I look upon skin and lung elimination as among the chief recommendations of the Sierra Nevadas as a health trip. As water is the medium of chemic exchange in the body, this active absorption and elimination of water must most beneficially accelerate the chemistry of the tissue changes. The old meaning of the word catharsis was purification, and Aristotle used it in this sense even in reference to purification of the mind. This diaphoretic and respiratory catharsis is a most efficient purifier and has the additional advantage of relieving the other emunctories.

Among all the ministering angels that surround us cooks are the most curious tempered, and ours was no exception to the rule. I once heard a man undertake to prove there is a back door to Hell. On being asked to produce his reason he said, "How else could our cook have escaped?" The incident that finally separated our cook from our happy family was the stretch from Hockett's Meadow into the Little Kern Valley. The usual route between Hockett's Meadow and Mineral King is uninteresting, and we were advised, for the sake of the scenery, to go by way of the Little Kern Valley and Farewell Gap. The scenery justified for us the discomfort, and the view from the summit, on the one hand down the Little Kern, and on the other toward Mineral King is one of the finest, but the cook did not see it in that light, and it was a case of: "You tak' the low road, and I'll tak' the high road."

We had an experience before reaching Mineral King very instructive to one camping in these mountains. It is convenient and agreeable to camp beside a stream, and besides in the bottom of the canyons there are so many cozy looking nooks, that are not so cozy as they appear. In the evening and in the fore part of the night these places are often comfortably warm, but toward morning the cold air from the snow-clad mountains pours down the steep canyons like water in a trough, and chills to the bone. This peculiarity of the Sierra Nevadas must be reckoned with, and therefore the correct thing is to camp up on the side hill or on the promontories. I knew this, but the place in question looked so inviting, and was so handy to the water that we determined to pitch or rather inflate our beds there. I awakened during the night with my feet as cold as stone, and my left knee as painful as a toothache. I mentioned this to the packer next morning, and he said he noticed we went down there, but did not say anything about it. This is characteristic of the mountaineer; unless under very special circumstances he will venture no advice.

It was in this neighborhood in crossing Farewell Gap, one of the highest points of our journey, that I noticed the evolution of a familiar effect of light on the skin.

Light has a powerful effect on the skin in producing sunburn, or even true eczema solare, and also a curious disease called seborrheic keratosis. Seborrhea of the skin is a predisposing, but not essential cause of this latter affection. Shortly after crossing Farewell Gap I noticed on the back of my hands, which, of course, had begun to tan, a few little, red, freckle-sized lesions. These little red patches indicated groups of epithelial cells that were more impressionable to light than those of the rest of the back of the hand. On observing

this I was careful to wear gloves, and the little red patches gradually died down and became pigmented, looking like ordinary freckles. If the strong light should continue, however, and if the skin is markedly seborrheic, these patches may not return to the normal, but may persist in being more actively desquamating, and furthermore the desquamating scales tend to adhere to one another, forming corneous masses. These masses are harder and more adherent on the back of the hand than on the face, but wherever they occur they have a tendency to degenerate into epithelioma; this degenerative tendency is more marked on the face than on the hands.

The day before this, while in Bullion Camp on the Little Kern, two men, each carrying a rifle, strolled up the trail. One of them wore gloves, the other had a well developed, roughened, chronic, sunlight erythema of the back of the hands, that was well thrown into relief as he held the rifle in the natural strong grip of the hunter, for they were real mountaineers and old friends of the packer. The detrimental effect of light in his case had gone very far, and probably had affected not alone the superficial epithelium, but even the connective tissue portion of the skin where it causes severe degeneration, especially of the elastic fibres that under its influence disappear. The light of the high mountains, because of being very rich in actinic rays, is much more active in causing this degeneration than that of the sea level. As the light travels down through the atmosphere the short, chemic, actinic rays are much more rapidly absorbed than the longer red rays of the heat end of the spectrum. This richness in actinic rays of light at high altitudes is the reason why snow burn in the mountains is so much more severe than at lower levels.

Sunlight has still another important effect on the skin. It stimulates its pigment-forming function. This great function is frequently undervalued and looked upon as a mere effort on the part of the skin to protect the cells from the detrimental effects of the sun's rays. The pigment certainly does protect the cells and especially their nucleus, but it may have still another great function. The pigment of the skin is almost entirely formed in the stratum germinativum, and as the cells of this layer advance in their natural evolution toward the surface, they lose their pigment, even before they reach the stratum granulosum, and they have still a considerable distance to go before they are cast off as the scurff layer. That is to say, the pigment is formed in the lowermost, youngest, epithelial cells of the skin where the cells are at the highest stage of secretory effectiveness, and is lost long before these cells have completed their life cycle. Is the pigment, therefore, an internal secretion of the skin gland, and if so, where does this secretion go after leaving the skin? Is it absorbed, and does it go to form hemoglobin? And if so is the formation of blood pigment like the formation of chlorophyll dependent upon the action of sunlight, as is maintained by Driesing?

A friend of mine, Fairfax Whelan, stoutly maintains that the only reason why the Aryans have surpassed the other races is that they were originally a pastoral people, going with their herds and flocks to the highlands in summer, and returning to the lowlands in winter, and therefore getting the wide range of physiologic experiences that difference in altitude and therefore in air pressure grants. It would be additionally interesting if it is found that the richness of the mountain sunshine in actinic rays, by acting on the pigment-forming function, and therefore on the hemoglobin, also tends toward physiological perfection. If this surmise that the pigment of the blood arises in the pigment of the skin, and that it represents a sort of concrete sunshine should be true, then the skin will take a loftier place in the hierarchy of organs than it has heretofore occupied. Physicians tend to regard the skin as a coat or envelope to percuss or palpate through in an effort to guess at what is going on in what are considered the nobler organs, and surgeons esteem it as a sort of leathery case to puncture or cut through in order to reach the juicier deposits beneath. It may, however, transpire that the despised skin, that is seldom looked at by the anatomist, and that is dismissed by the physiologist at the end of the term together with the benediction, may be among the noblest of all the organs, and may be intimately connected with the formation of hemoglobin, and therefore with the assimilation of oxygen, that most important of all the functions of animal life.

Finally, we come to a consideration of the mules that were such a help to us on our trip. I learned much from those mules. In fact I do not see how a man can handle patients or practice medicine successfully without a knowledge of mules, for the mule and the patient have much in common. The mule is often narrow mindedly insistent on his own way of doing things, and so often are patients. Mules kick, and so do patients. You cinch a mule, and it is sometimes necessary to apply that process to a patient. Even the word "cinch" has a long and honorable history in medicine. Cinch is from the Spanish cincher, which is the Latin cingulum, a girdle. Cingulum is the name of the monk's girdle, emblematic of the encircling church. And from the Latin cingulum we get the medical word "shingles," or the girdle disease, as applied to herpes zoster. There may be a mystic meaning in the monastic word cingulum, but there is no mysticism about the word cinch as applied to a mule's cinch strap, or of shingles as applied to herpes zoster. Both of them are concrete realities, and occasionally also we meet with the real thing in dealing with a patient.

Many of the truly greatest, most contemplative and wisest of the human kind have become intimately acquainted with the jackass tribe, as for instance Sancho Panza, and also Robert Louis Stevenson, as related in his Travels on a Donkey. Occasionally in dealing with a patient it is necessary to be as firm as a cinch strap, as spiritually wise and kind as Robert Louis Stevenson, and as worldly wise and free from illusions as Sancho Panza.

ACUTE POLIOMYELITIS IN CALIFORNIA.

By F. F. GUNDRUM, M. D., Sacramento.

In a previous paper[1] it was shown that acute poliomyelitis has been occurring in California for many years, both as sporadic cases and in occasional epidemics. These epidemics have been usually small, but within the past few years the numbers attacked have greatly increased. No further authentic accounts have been obtained of past outbreaks except one group of two cases near Bodega Bay, Marin County, in April, 1888. It is the purpose of this communication to record the history of poliomyelitis in California during the past three years. It has not been possible, for various reasons, to obtain completed records of all cases reported by health officers, and on this account only part of the cases are available for analysis.

The reports at the office of the State Board of Health for the years 1910, 1911, 1912 were collected and the data tabulated as follows:

1. Portion of the year when most cases occurred.

2. Sex.

3. Age. i. e., over or under 8 years. (Arbitrarily chosen upon a former occasion.)

4. Exposure. (Any direct or reasonably close indirect contact with a known case.)

5. Onset. There has been reported in almost all cases types of onset which can comparatively easily be grouped into one of two divisions.

1. The so-called classical or gastro-intestinal type in which the intestinal symptoms such as nausea, vomiting, constipation, diarrhea, etc., seem to predominate clinically until the appearance of the paralysis.

2. The meningeal type where retraction of the head and other phenomena seem to point toward some meningeal irritation. A few reports showed the onset to have been so mild as almost or quite to have escaped notice. Just why those two above mentioned types of onset should have so greatly outnumbered other well recognized though less frequent ones is difficult to explain. It may not be impossible, that the blank forms sent out lent themselves too facilely to the remembering and recording of some symptoms and to the forgetting of others.* At any rate, practically all, without any apparent distortion, can be brought into one of these two groups and this accordingly has been done.

Symptoms of Acute Stage.

*Fever: High. Moderate. Slight. None.
Headache: Severe. Moderate. Slight. None.
Constipation. Diarrhoea. Vomiting. Sore throat.
Pain: Distribution.
Tenderness: Distribution.
Retraction of head: Restlessness. Drowsiness.

6. Paralysis: The distribution rather roughly grouped as to whether affecting upper or lower extremities, or respiratory muscles. The exact muscles paralyzed and the extent, etc., of the palsy is of chief interest to the orthopedist whose ingenuity is called upon later to substitute or restore as much as he can.

7. Result: All patients having no paralysis at all or none remaining at the time of filling out blanks were classed as abortive. The other groups recorded under this heading are self-explanatory.

8. Contacts: Persons who were in close association with sufferers from the disease during the acute stages. On account of the greater frequency in children and therefore assumed greater susceptibility, contacts were divided according to age, those under 18 being classified as children.

9. Outline maps of the state showing localities in which poliomyelitis has occurred during each of the past three years.

1910.

Total cases reported.....139
Total deaths reported..... 9
Percentage mortality..... 6
Total cases available for analysis.....120
(1) Maximum of Cases:
May 1st to September 1st..... 71%
(2) Sex. Males.....76 or 63%
Females .....44 or 37%
(3) Age. Under 8 years.....85 or 71%
(4) Exposure ..... 5 or 4.1%
(5) Onset. Classical.....80 or 67%
Meningeal .....40 or 33%
(6) Paralysis:
Upper extremities.....Cases 27
Lower extremities.....Cases 93
Respiration .....Cases 7
(7) Result:
Paralyzed 113
Dead 7
(8) Contacts:
Adults 113
Children 113
Percentage of secondary cases known to contacts:
Adults 0%
Children 4.4%

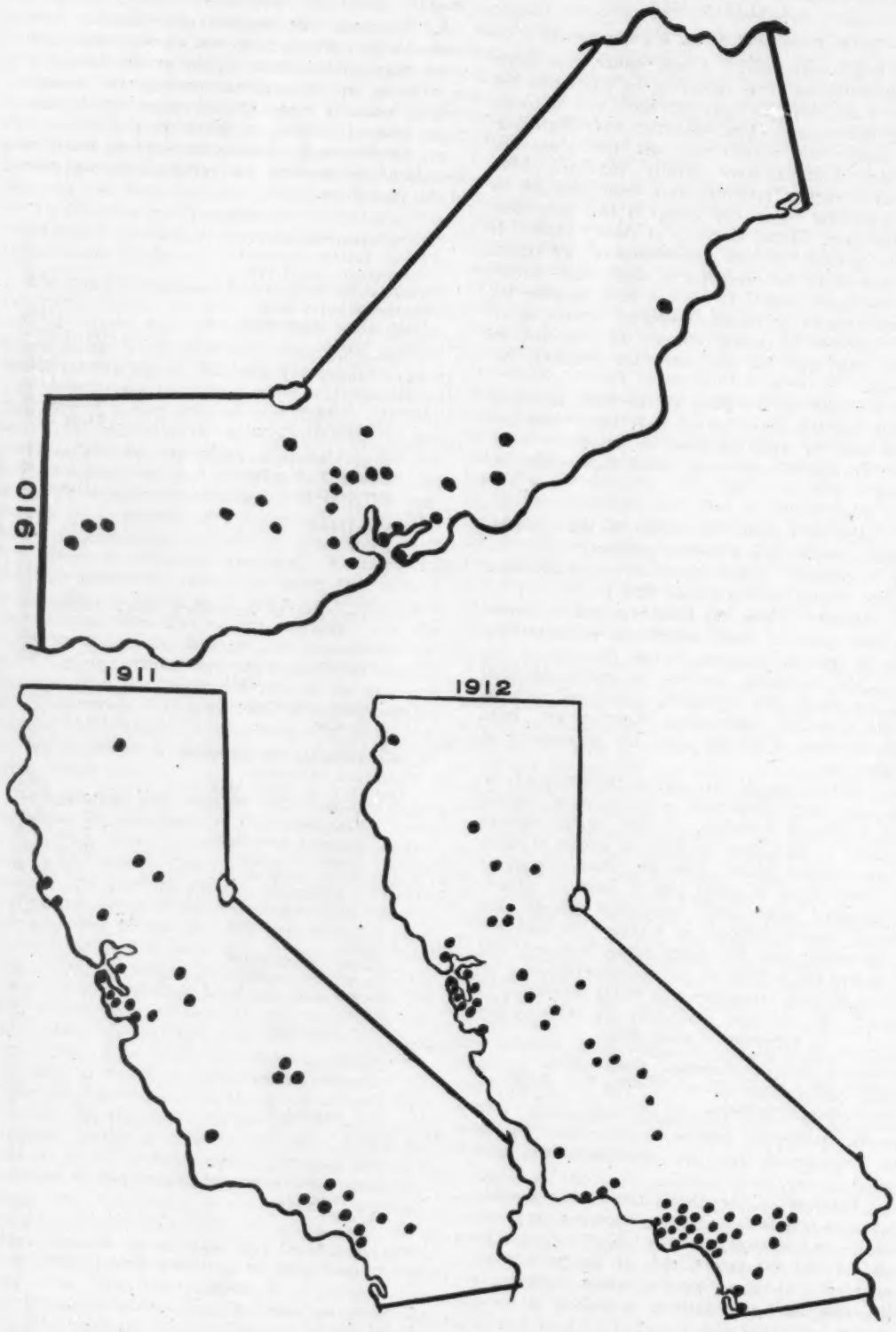
1911.

Total cases reported.....55
Total deaths.....13
Mortality rate.....24%
Cases available for analysis.....29
(1) Maximum of cases:
Oct. 31st to Dec. 31st..... 88%
(2) Sex. Males.....10 or 34%
Females .....17 or 59%
Sex not recorded..... 2 or 7%
(3) Age. Under 8 years.....21 or 72%
(4) Exposure—1 case or.....3.4%
(5) Onset. Classical..... 8
Meningeal 6
Not recorded.....15
(6) Paralysis:
Upper extremities..... 2
Lower extremities..... 5
Respiration 4
Face 2
Not recorded.....16
(7) Result:
Paralyzed 7
Abortive 3
Dead 13
Not recorded..... 4
(8) Contacts:
Adults 22
Children 15
Proportion of known secondary cases to known contacts:
Adults 0%
Children 3.4%

The records of this year are so imperfect as to make percentage computations almost valueless.

1912.

Total cases reported.....531
Total deaths.....129
Mortality rate..... 24%
Cases available for study.....354



Acute Poliomyelitis in California.

(1) Maximum incidence:
June 1st to Oct. 21st.....259 or 80%
(2) Sex. Males.....190 or 54%
Females .....159 or 44%
(3) Age. Under 8 years.....277 or 78%
(4) Exposed:
Yes ..... 43 or 12%
No .....227 or 64%
Not recorded..... 84 or 23%
(5) Onset:
Classical .....151 or 43%
Meningeal .....108 or 30%
Not recorded..... 95 or 27%
(6) Paralysis:
Upper extremities..... 61 or 18%
Lower extremities.....132 or 38%
Respiration ..... 68 or 20%
Abortive ..... 41 or 12%
Not recorded..... 42 or 12%
(7) Result:
Paralyzed .....172 or 49%
Dead ..... 129 or 24%
Abortive ..... 51 or 14%
(8) Contacts:
Adults 601
Children 401
Proportion of known secondary cases to contacts.
Adults 1.6%
Children 8%

The proportion of known exposures to known cases in children and adults correspond, however, more closely to the cases reported than these figures would seem to indicate, i. e., 78% of all cases were under 8 years of age: of 43 cases of known exposure, 32 or 77% were children. The greater per cent. of known exposure in children may also be due to the relatively more easily obtained knowledge of contacts. There is a definitely greater percentage of known secondary cases among children shown by the data of all three years. This fact favors assumption of a greater susceptibility to the disease among children.

Total for Three Years.

Total cases reported.....706
Total deaths.....151
Mortality rate..... 21%
Cases available for analysis.....503
(1) Maximum Incidence:
May 1st to Oct. 1st..... 72%
(2) Sex. Males.....276 or 53%
Females .....220 or 44%
Not recorded.....7
(3) Age. Under 8 years.....363 or 72%
(4) Exposure .....49 or 9.7%
(5) Onset:
Meningeal .....154 or 30%
Classical .....239 or 47%
Not recorded.....111
(6) Paralysis:
Upper extremities.....189 or 37%
Lower extremities.....230 or 43%
Respiration ..... 72 or 14%
(7) Result:
Paralyzed ..... 292 or 56%
Dead .....149 or 26%
Abortive ..... 44 or 9%
Not recorded..... 46 or 9%
(8) Contacts:
Adults 736
Children 539
Proportion of known secondary cases to known contacts:
Adults (over 18).....1.3%
Children (under 18).....7.2%

During 1912, there appeared papers,[2 3] reporting successful transmission of poliomyelitis through the agency of the biting fly, *Stomoxys Calcitrans*. Following this, special efforts were made throughout the last few months of the year to record, if possible, the presence or absence of this fly in the immediate neighborhood of individuals ill with poliomyelitis. The majority of these observations were made in the valley of the Sacramento river, a valley of farms and dairies having a large population of domestic animals. In every case it was a matter of comparative ease to find numerous specimens of stomoxys.

CONCLUSIONS.

1. Poliomyelitis is more prevalent in summer but is by no means confined to hot weather, instances of this disease having occurred at all seasons.

2. Children are more apt to contract the disease after known exposure than adults.

3. Exposure could be demonstrated in only one case in ten.

4. The onset is rather more apt to present gastro-intestinal symptoms than meningeal.

5. The spreading of the virus through a community is in the majority of cases untraced. This distribution can be explained only through the assumption of unsuspected carriers, probably human, possibly insect or animal.

In closing, I wish to express my indebtedness to Dr. W. F. Snow, Secretary of the State Board of Health, for access to the records and for constant interest in following up the disease in California.

1 Gundrum, Jour. A. M. Med. Assn., Jan. 27, 1912. Vol. LVIII, pp. 254-55.
2 Rosenau, M. J. XVth International Congress of Hygiene and Demography, September 26th, 1912.
3 Anderson, J. F. Public Health Reports; U. S. P. H. Service; Vol. XXVII, No. 41, p. 1733, Oct. 25th, 1912.

"IMPRESSIONS."*

By H. J. KREUTZMANN, M. D., San Francisco.

The practice of medicine is certainly interesting and fascinating for many reasons; to myself the fact that we in our daily work can make the most interesting scientific observations and researches, has always been especially attractive.

On the other side, no work of any kind taxes and racks the nerves of a person more than the practice of medicine. It is not only the great responsibility of our decisions, often involving life and death, health and happiness, which makes our position difficult; but what has always appealed most to me is the fact that in our daily work we are made not merely witnesses, but active participants, in the greatest tragedies of life. When priest or undertaker steps in, death has done its work, they stand before an accomplished fact; but we physicians are right in the battle line for life; we, if we have any heart at all, cannot entirely escape the anxiety, worry, disappointment and despair so often accompanying the struggle for life.

At times the measure of our endurance becomes full, and then the only thing for us to do is to

*Read before the San Francisco Polyclinic Society, April, 1913.

leave practice and patients alone for a while. I must confess that about a year ago I found myself in such a position. I went away. I could not go near a hospital for quite a while, did not want to see clinics or doctors. We went through Canada, saw Montreal, New York, crossed the Atlantic, saw Paris at the best time of the year, its beautiful surroundings; traveled through Belgium and Holland into Germany. I kept away from hospitals, looked only at things beautiful in nature and art, at the great works of man. In this way I took a refreshing bath, freeing myself of the refuse of daily toil, and gradually the interest in medicine, the desire to see something medical returned to me.

After a few months I began to visit clinics and hospitals; I did not run from one man to another, from one clinic to another; my principle was rather: *non multa, sed multum!* I visited some of the great German gynecologists, personally known to me; remained for weeks at a time at the same place—Berlin, Munich, Frankfurt, Heidelberg; I became acquainted with the assistants, and in daily visits and talks I learned and saw a few things that were quite interesting to me.

What impressed me most in all these interviews, lectures and observations, was the great tendency to conservatism, as practiced and taught by the foremost leaders in gynecology and obstetrics: conservatism as manifested by the application of non-surgical methods of treatment of different affections peculiar to women. Notably in three things this conservatism is conspicuous:

1. In the treatment of inflammatory affections of the uterine appendages;

2. In the application of Roentgen-rays in gynecology;

3. In the treatment of placenta previa.

With the wonderful advancement of surgery under anti- and aseptic measures, gynecology was not lagging behind; occasionally an attempt was made to save some of the affections of female genital organs to non-surgical treatment, but I do not think I misrepresent conditions when I say that as a whole gynecology, and even, in the hands of a few, obstetrics, has become merely an appendix to general surgery.

This is especially true of the inflammatory affections of the Fallopian tubes and the ovaries. Since Lawson Tait let loose his "cut her open," since Beatty and Hegar made an assault upon ovaries, the onslaught upon these organs all over the world for a few decades has been tremendous; and thousands and ten thousands of women lost their organs of reproduction or part of them; some incidentally also their lives. Undoubtedly what we know now about the affections and diseases of these organs—and the knowledge is wonderful—was all gained in consequence of this surgical therapy.

Enough time has now passed, enough cases have been observed, especially as far as later and final effects are concerned; the initial enthusiasm for a new and brilliant method of treatment has subsided, cooler judgment prevails, and the result is that inflammatory affections of tubes and ovaries are more and more taken away from surgical treatment and restored to conservative, non-surgical methods. This is entirely in accordance with the general trend of medicine: inflamed affections of joints, for instance, are not as a matter of routine treated with amputations or resections but with conservative methods. The same prevails with the tubes and ovaries. Every gynecological clinic that I saw is equipped with a regular balneotherapeutic department, to apply water, heat, massage in different forms and ways.

Certainly there remain as yet many cases of inflamed, decayed tubes and ovaries, real pus tubes, adherent adnexa, etc., that have to be operated. But the indiscriminate rush with the knife for those organs, the many silly operations for slight pathologic, almost physiologic changes in the ovaries (small cysts) are condemned. The general state of health, the condition of the nervous system, are carefully looked over and accordingly treated. A better understanding and appreciation of the relation between the affections of generative organs of women and the nervous system exists, and this in turn renders gynecologists careful in recommending and performing operations.

Roentgen-rays are employed at many clinics; the therapy is in the state of development as yet, but undoubtedly it is to remain; the best method of application, its scope and indication are not worked out yet, but free and frequent discussions and papers show the great interest taken in this form of treatment; and it is rather remarkable to hear the most wonderful experts in operative technic talk quite enthusiastically on Roentgen therapy in lieu of operations. Professor Krönig of Freiburg, one of the most accomplished and daring operators, made the rather startling statement that for uterine fibroids Roentgen-rays would replace the knife.

The main indications for Roentgen-rays are so far:

1. So-called idiopathic metrorrhagias.

2. Fibro-myoma of the uterus.

The X-rays work upon the ovaries, destroy their function, a so-called X-ray castration takes place: but besides fibro-myoma of the uterus have been observed to become diminished in size under direct exposure to Roentgen-rays.

Roentgen-ray treatment has proved of excellent advantage in hemorrhages before the climacterium, so untractable oftentimes. Nothing pathologic on uterus or ovaries is found, the curetting does not stop the flooding; sometimes we have to resort to hysterectomy. For these cases, with X-rays the flow can either be diminished (oligomenorrhoea) or entirely stopped (amenorrhea). X-ray treatment is considered *the* treatment for these cases.

Opposition is made to this mode of treatment on the ground that with X-ray becoming of frequent use, many malignancies will be overlooked, or not be operated upon early, when the chances are best for permanent cure through operation. It is considered of absolute necessity that X-ray treat-

ment should be carried on only by an expert gynecologist, in order to minimize as much as possible this danger of overlooking malignancies or other contra-indications. It is argued that it is easier for an accomplished gynecologist to become an expert with Roentgen-rays, than for a Roentgen-ray expert to become an accomplished gynecologist.

The third matter is eclampsia. When we mention the word eclampsia, a long train of theories passes review before our eye. Every new idea, every discovery made in medicine in the last forty years has been utilized to explain the etiology of the eclamptic seizures of the gravid, parturient or puerperal woman. To some extent treatment of eclampsia has been influenced by these theories.

After the merely symptomatic treatment with large doses of narcotics came the short-lived period of sweating the eclamptic under the assumption of eclampsia being uremia with accompanying hydremia; then chloroform was used with fair success. The theory of intoxication of the maternal body through fetal metabolism ushered in the demand to rid the mother at once of the fetus. At first this was attained through obstetric measures; these soon became supplanted by surgical operations. Dührssen's vaginal Cesarian section gave a new record of recoveries, heretofore unattained. The vaginal operation in turn gave way to the abdominal classic Sectio Caesarea.

For a number of years it has been accepted almost without contradiction, that the best method to treat eclampsia parturientium is to empty the uterus at once; if there is sufficient dilatation of the uterus, perform version or apply forceps; if not, cut and get the baby out.

There were a very few who did not believe in this treatment, but they had to "go way back and sit down"—their voices were buried in the noise made by the surgeon-obstetricians. There was, however, a gentleman whom they could not kill: Professor Stroganoff of St. Petersburg, Russia, took even the trouble upon himself to demonstrate his conservative, expectant mode of treatment of eclampsia to some of the leading German obstetricians.

Stroganoff's method consists in: removal of all noise, light, touch from the eclamptic; besides he gives morphia and chloral hydrate alternately and waits for a natural delivery of the child. His statistics are excellent; he gives large numbers of cases, since short series of observations are of no value whatsoever.

Stroganoff found lately, in Professor Zweifel of Leipzig, a champion of his cause; Zweifel is undoubtedly the greatest living authority on eclampsia; Zweifel became doubtful of the surgical treatment for various reasons, chief among them being: 1, that his mortality under improved surgical technic has steadily been growing larger; 2, that he could not accept the theory of fetal metabolism as cause of eclampsia, since eclampsia occurs where the fetus is dead post partum, also it has been observed in cases of vesicular mole.

Zweifel attributes the success of surgical delivery to the loss of blood occurring in these operations; he found through careful analysis that the blood of the eclamptic is not hydremic, but on the contrary concentrated above normal; he has adopted Stroganoff's expectant treatment and has added to it venaesectio. Under this combination he was able to have in a series of 84 consecutive cases, 5.9% mortality. With this combined treatment it has repeatedly been observed that eclamptic seizures during pregnancy ceased, the urine cleared up, gravida went to term and was delivered in a normal labor.

These excellent results cannot be ignored by other clinics; Zweifel's treatment of eclampsia: venaesectio and Stroganoff combined, will certainly be tested.

I thought these observations and impressions might be of interest to you, especially since here in the "wild and woolly West" things are so entirely different. A terrific mania operativa is raging here: everybody "wields the knife"; the practice of medicine appears to have become purely surgery; when a doctor sees a patient, his first and only thought seems to be, What operation can I possibly do in this case?

I wonder how long this remarkable condition of affairs is to last?

STAPHYLOCOCCUS SPRAY FOR DIPHTHERIA CARRIERS.

JEWEL FAY, B. L., Berkeley, Calif.

The idea of treating diphtheria carriers with sprays of staphylococcus aureus originated with Schiotz [1] in 1909. He used the spray upon six carriers and reported complete success. In 1911 Page [2] reported the disappearance of diphtheria bacilli in seven cases after forty-eight to seventy-two hours of treatment. In the same year Catlin, Scott and Day [3] reported the successful use of the spray in eight cases. Further investigation was made in 1912 by Lorentz and Ravenel, [4] who also reported successful results. In these investigations no parallel cases were treated, as controls, by other methods, and serious doubt remained regarding specific antagonism between the staphylococcus aureus and the diphtheria bacillus. Moreover, in 1912 DeWitt [5] carried out a series of experiments upon guinea pigs, and came to the conclusion that there is no antagonism between the staphylococcus aureus and the diphtheria bacillus.

This investigation was undertaken to make a comparison of the values of sprays of staphylococcus aureus culture and of a mild antiseptic solution in the treatment of the noses and throats of diphtheria carriers. An opportunity to treat a series of carriers was afforded through the kindness of Dr. Mark L. Emerson, physician to the State Institution for the Deaf and the Blind in Berkeley. Thanks are also due to Dr. W. A. Sawyer, Director of the State Hygienic Laboratory, and to other members of the laboratory staff for helpful suggestions and access to the records. The bacteriological work was done in the laboratory of the Hygiene Department of the University of California.

The Institution for the Deaf and the Blind at Berkeley underwent a small epidemic of diphtheria

early in 1912. The first case was that of a teacher who was taken sick in January. The second case occurred on April 16th and was followed by a third on April 30th. The fourth, fifth, sixth and seventh followed in rapid succession, the last appearing on June 7th. The second, third, fourth and fifth cases gave second successive negative cultures on May 14, May 2, June 24, and May 30, respectively. The sixth and seventh cases gave second negative cultures on June 29. When the school opened in August, Dr. Emerson, fearing another outbreak of diphtheria, undertook a bacteriological examination of the noses and throats of all the students in the institution. One hundred and forty-four nose and throat cultures were sent to the State Hygienic Laboratory and eighteen of these showed diphtheria bacilli. On September 7 I was given the opportunity of continuing the investigation, and took cultures of the remaining 75 children. Ten in this group gave positive cultures, making a total of 28 carriers (12%) among 219 children. Among the children examined were five of the seven persons who had had diphtheria in the outbreak described above. The third and seventh of the cases gave positive cultures, although they had given two successive negative cultures over two months before. The seventh case became Case 1 of Group A, while the third case was dropped from the series owing to interruption of treatment.

Twenty-four of these carriers were treated with staphylococcus aureus and antiseptic sprays. They were divided into two groups of twelve each, designated as A and B. The division into groups was made as fairly as possible, the cases of known or of suspected long duration being distributed equally between the two groups. Group A received treatment with staphylococcus spray prepared as follows: 100 c. c. of nutrient broth was inoculated with a large loop of staphylococcus pyogenes aureus which had been grown on artificial media for nine months. It was incubated over night at 37° C. and was sent to the institution early the next morning for use. As a control, Group B received a spray of the following composition: Formalin 0.2, alcohol 60.0, glycerine 15.0, made up to 240 with cinnamon water. These sprays were applied thoroughly upon the surface of each tonsil, the posterior wall of the pharynx and far back into the nasal cavities. The spraying was done by a trained nurse in charge of the hospital of the institution.

The two groups received three treatments each day on September 19 and 20 and September 25 and 26. Cultures were taken on September 22 and 28. These were followed by three treatments each day from October 1 to 4 inclusive. Cultures were taken on October 6. The next treatments were given October 8, 9, 10 and 11, and cultures were taken on October 12 and 14. After October 15 treatments were given three times each day and cultures were taken, as far as possible, every morning before the spraying. This regime was followed until each case gave two successive negative cultures. At this point it was decided that the carriers would probably not be dangerous to the other children if they continued to receive treatment. As Dr. Emerson concurred in this opinion, they were released from quarantine but received treatments every day for 17 days after the last positive culture. They were then again examined bacteriologically.

The results of the treatment of groups A and B are shown in the following tables:

Group A: Carriers Treated with Staphylococcus Spray.

Case.	Date of beginning treatment.	Date of last positive culture.	Days between 1st treatment and last positive culture.	No. of treatments before last positive culture.	Total No. of treatments.	Date of last culture.
1	Sept. 14	Oct. 26	42	69	108	Dec. 7
2	Sept. 14	Oct. 6	22	27	67	Dec. 7
3	Sept. 19	Oct. 26	37	66	103	Dec. 7
4	Sept. 19	Oct. 12	23	36	78	Dec. 7
5	Sept. 19	Oct. 12	23	36	78	Dec. 7
6	Sept. 19	Oct. 6	17	24	63	Dec. 7
7	Sept. 19	Oct. 6	17	24	65	Dec. 7
8	Sept. 19	Sept. 28	9	12	66	Dec. 7
9	Sept. 19	Sept. 6	17	24	80	Dec. 7
10	Sept. 19	Sept. 22	3	6	57	Dec. 7
Total			210	324	765	
Average			21.0	32.4	76.5	

Group B: Carriers Treated with Antiseptic Spray.

Case.	Date of beginning treatment.	Date of last positive culture.	Days between 1st treatment and last positive culture.	No. of treatments before last positive culture.	Total No. of treatments.	Date of last culture.
11	Sept. 14	Oct. 6	22	27	66	Dec. 7
12	Sept. 14	Oct. 6	22	27	66	Dec. 7
13	Sept. 19	Oct. 30	41	74	112	Dec. 7
14	Sept. 19	Oct. 26	37	66	97	Dec. 7
15	Sept. 19	Oct. 25	36	66	98	Dec. 7
16	Sept. 19	Nov. 2	44	67	88	Dec. 7
17	Sept. 19	Nov. 2	44	67	88	Dec. 7
18	Sept. 19	Oct. 14	25	36	82	Dec. 7
19	Sept. 19	Oct. 14	25	36	82	Dec. 7
20	Sept. 19	Oct. 14	25	36	82	Dec. 7
21	Sept. 19	Oct. 6	17	24	70	Dec. 7
Total			338	526	931	
Average			30.7	47.8	84.6	

Because the treatments of two members of Group A and one member of Group B were interrupted, they were dropped from the list. Out of the remaining eleven in Group B, two cases (16 and 17) gave positive cultures after they had received treatments daily for 17 days following the last positive culture which preceded their first two successive negative cultures. All of the ten cases similarly treated with staphylococcus spray gave negative cultures after the corresponding 17 days of treatment.†

It was noticed that positive cultures were more apt to be obtained when a day elapsed between treatment and taking of culture than when the culture was taken on the following day.

A comparison of the averages of the two tables shows a slight advantage for the treatment with the staphylococcus spray. By this method a last positive culture was obtained in an average time of 21.0 days with an average of 32.4 treatments. This shows an advantage of 9.7 days and 15.4 treatments over the antiseptic spray.

Conclusions.

1. The length of time necessary to cause diphtheria bacilli to disappear from the throats of carriers by the use of sprays of staphylococcus aureus or of dilute antiseptics was sufficiently long to suggest that there was no decided antagonism, under the conditions of treatment, between either solution used and the diphtheria bacillus. It is regretted that a third set of controls was not treated with a spray of physiological salt solution to determine to what extent the final results were due to mechanical cleansing by frequent sprayings.

2. The difference between the effects of the staphylococcus spray and of the control spray suggested a slight advantage for the staphylococcus spray.

3. Treatment of diphtheria carriers with sprays of staphylococcus culture or of antiseptic fluids should be continued for several weeks after the last positive culture has been obtained.

4. It is highly desirable that further search be made for a method of treatment which will be promptly efficacious in ridding the throats of diphtheria convalescents and carriers of their infection.

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† Nose and throat cultures were taken from members of Groups A and B on March 18, 1913. The culture from Case 16 of Group B showed a few diphthehia bacilli. All the other cultures were negative.

PSYCHIATRIC DUTIES OF LARGE CITIES.

The discussion brought out by this paper (which was read before the San Francisco County Medical Society in March and was printed in the April Journal) seems to be sufficiently interesting and valuable to warrant its publication. It was not received in time to be printed with the paper, an early publication of which was urgently requested by the San Francisco Society.

Dr. W. F. Snow read the following letter from Dr. F. W. Hatch who was unable to be present:

It is evident that existing state hospitals do not fully answer the needs of the insane owing to their distance from centres of population and compulsory commitments. It is also apparent that existing measures for the care of the insane, previous to commitment, are not generally satisfactory and that neither the state hospital nor the quarters for the preliminary care of the insane afford the medical schools nor the medical profession the opportunities for the study of mental diseases that they should have.

The state hospitals with their receiving and treatment buildings are doing advanced work in the care and treatment of acute cases, but this usefulness is limited by the necessity of legal commitment before their advantages and aid could be obtained.

For several years I have advocated the plan of psychopathic hospitals in some of our larger cities where acute cases might be treated without the necessity of legal commitment. The difficulty in the way of the establishment of such hospitals is largely one of expense, or the source from which the funds for their maintenance will come. Is it to be met locally or by the state, or by the two sources jointly? As it is now the state has nothing to do with mental cases until they are legally adjudged insane and committed to her care, hence it would seem a matter of municipal or county control. If the city or county will not assume the burden, may one not get joint action that will result in a division of the expense between the municipality and the state. Personally I have conferred with Judge Van Nostrand and Drs. McGettigan and Lustig of the Board of Examiners in Lunacy of San Francisco and I am sure we can rely on their assistance in advocating the securing of two wards in the new County Hospital for use as a psychopathic hospital.

As the City of San Francisco will maintain its hospital and will have the necessary equipment for heating, lighting and feeding the patients, may we not assume that that part of the expense will be borne by the municipality?

It is my personal opinion that we should have a resident physician detailed and paid by the state who should have general charge and control and who should be empowered to employ and discharge nurses, have proper clinical record kept and who should have some discretionary power in the matter of the admission of cases. I have conferred with the attorney of the Lunacy Commission regarding an amendment to the lunacy law and he is prepared to take it up whenever I call upon him.

I had hoped to be with you to-morrow night that we might discuss the matter at length but an unexpected meeting is called for to-morrow afternoon and a full attendance is desired so I may not be able to get away.

If the society will, after discussion, refer the matter to a committee, I will gladly meet with it and assist in formulating a plan and getting legislative action upon it. I can meet any day next week and the sooner we can get at it the better.

I have some amendments now before the legislature to which I can add any necessary amendment affecting the psychopathic wards.

Dr. W. F. Snow, Sacramento: I believe emphasis should be placed on what Dr. Richards stated at the close of his paper, i. e., that unless we as medical men take up the whole subject of prevention of insanity, we are going to drift farther away from the public. Dr. Richards is thoroughly conversant with Dr. Hatch's viewpoint and I have heard enough discussion in the Lunacy Commission to know that the administrative officers are deeply interested in this problem. You probably know that there are a number of bills pending before the legislature to change materially our present method of state supervision of affairs of state hospitals. The present Lunacy Commission consists of the Governor, Secretary of State, Attorney General, Secretary of the State Board of Health and General Superintendent of Hospitals. In the meetings of this commission, the question under discussion has come up a number of times. There is a feeling of unrest, and I think it only needs active and intelligent consideration of plans to provide for a very effective administration of the whole problem. By the whole problem I mean every phase of it from the first indications exhibited to the final commitment to one of the state institutions. The work of the mental hygiene societies is an important factor.

Dr. D. D. Lustig: Speaking for myself, I am thoroughly in accord with the views expressed by Dr. Richards in his excellent paper. In conferring with my confreres on the commission, we feel that the establishment of a psychiatric hospital is a necessity.

Dr. C. D. McGettigan: I have not much to add to what Dr. Lustig has said. We have worked together on the Lunacy Commission for a number of years, and at times under great stress on account of present conditions. We realize, I think, more than the other physicians here to-night, the need of a psychiatric ward where the acute mental

cases can be treated. We frequently send patients to the state hospitals that would recover in a very short time if properly treated. These include the various acute toxic manias due to alcohol, constipation, pregnancy, etc. I would also include in this list those cases of brain tumor in which a decompression operation would improve or cure. Dr. Lustig has visited Bellevue recently and we have tried to keep in touch with what they are doing in the large hospitals in the East. We wish the County Society to know that the Lunacy Commission of San Francisco is in full accord with anything that will advance the study of psychiatry or help the mentally afflicted.

Dr. R. L. Wilbur: I have been much interested in this paper and also in Dr. Hatch's discussion. This subject had interested me greatly since some years ago when I had the responsibility of arranging for the care of a young man who was arrested by the authorities of one of our large cities because of the symptoms of a cerebral lues. The difficulty and injustice associated with the care of acute mental cases with our present inadequate facilities is no doubt familiar to all of you. There has been, as you know, considerable advance in this regard in Los Angeles, but here our local Lunacy Commission has had greater difficulty in handling the problem. It is one of the crying shames of American civilization that when we are so successful in many of our projects that we have been so negligent of this important one. We have built large buildings in the country and taken fairly satisfactory care of the insane, but we have had great difficulty in having these buildings controlled by satisfactorily trained physicians and assistants. There has been but little systematic training of physicians in the care of the insane in the United States.

We have a rare opportunity in California to take hold of this problem in the right way. We have excellent accommodations in the present asylums, although they are, of course, inadequate. If we can take hold now in San Francisco of this more or less makeshift plan of temporarily establishing two wards in the new San Francisco hospital, I think that we should do so. We should look forward to the establishment of a high class psychiatric station for acute cases, which should be under the control of the state. In such an institution we could train medical men, change the whole care of the insane and handle it on a more scientific basis. I think there is nothing in our present law to prevent this. If we can put ourselves on record as favoring this plan, it would be a stepping stone to what we want and that is to have the care of the insane handled as it is in Germany and in this country in New York, Boston and now in Baltimore.

I move that the society place itself on record as favoring the establishment by the state of a central station for acute mental cases in San Francisco, and that a committee of three or five be appointed by the president of the society to take this matter up with Dr. Hatch.

Dr. H. C. Moffitt: I think there is a movement all over the country just now which we should follow. I have had an opportunity of talking this matter over with Dr. Wilbur, and we are at one from the standpoint of the universities, that the teaching of psychiatry is a tremendous need in our community and among our students. We also feel that in the teaching of students and the preparation of the profession there is a tremendous lot of work to be done by an institution of the kind that has been outlined in detail by Dr. Richards. Dr. Waterman knows of some of the social questions which are particularly connected with a hospital of this kind, and there is nobody better able to tell us what has been done in Los Angeles in this direction than Dr. Waterman. I feel as Dr. Wilbur does that we shall have to have a big institution here, to be developed under the direct guidance of the state; but such an institution can not be gotten right off and we should take what we can get. It seems possible, if we all get together now, that we can put through this beginning. I feel very strongly that we should co-operate in every way possible with Dr. Hatch and other individuals to see the clinic started at once. There is a growing need for it and I think the universities feel that need as much as anyone in the community.

Dr. H. J. Waterman: The work in Los Angeles has been that of psychopathic parole. It was started at the request of Judge James Hutton, who felt that so many of the cases brought before him were not cases for asylums that he appealed to the ladies of the Federated Clubs and asked them to come to his assistance. They, in co-operation with the Lunacy Commission, established a little home called Rest Haven. The supervisors of Los Angeles allowed them $125 per month and the other expenses were met by churches and other charitable organizations. They had charge during the year of 80 patients, among them 15 complete recoveries and a large proportion were greatly improved. There was a request that such work be established here, but in consulting with our Lunacy Commission we found that there was not the same need here, as we have a small detention home where our physicians are able to watch their patients for a few days or a week before commitment. After talking with the staffs at various insane hospitals and four well equipped insane asylums, we felt that the greatest need was for a large central detention home. If we can have that established other needed work can be included and with the work of social service we can carry out this psychopathic parole work satisfactorily.

Dr. W. Ophüls: This is far afield from my usual work. The only thing I have been thinking of was this: when it comes to the practical solution of the question, it will take quite a campaign before the board of supervisors to get them to appropriate funds to run these two wards. It seems to me, however, that this is the only opening to get something done, and as long as the city has to take care of the insane before they are committed, I do not see why they should not enlarge the service in order to take care of these unfortunates in a decent and scientific manner.

Dr. P. K. Brown: I do not think many of you can have had much experience in the care of insane cases without feeling perfectly hopeless in the face of the situation here. Were it not for the kindness of certain men on the Lunacy Commission, the situation would be impossible. I have known several of them to give many hours of their time without thought of remuneration, in studying these cases to save their being taken to the detention hospital. The present one is a great improvement over anything we have had in the past, but it does not fill the needs of the case. A lot of these cases need to be seen many hours a day and a visiting physician does not have time for the study of these cases. Both physicians and nurses should have a chance to learn how to care for such cases. There would be vastly less horror of such institutions, and acutely insane patients would get prompter and better care. There are lots of defects in the present situation. Thus, alcoholic psychoses present one of the serious drawbacks. If a man is committed to an asylum with an alcoholic delirium, he is often discharged in a few days and that man can commit any crime thereafter and never have judge or jury convict him because of a history of having been possibly only five days in a state hospital for the insane. The situation is entirely wrong, and the difficulty of getting records out of these hospitals often prevents these cases being properly handled.

Dr. H. C. McClenahan: First, I wish to subscribe generally to what Dr. Richards has said. It seems to me, however, that the question to be decided by this society is not whether we could get psychiatric wards in the County Hospital, which I agree with Drs. Moffitt and Wilbur is a makeshift, but to make recommendations, looking forward to a correct solution to the handling of the insane in large cities. I do not think we can make any mistake if we profit by the experience of other large municipalities, such as Philadelphia, Boston, and New York, in their attempts to solve this problem.

They found the psycopathic clinics, and the psycopathic wards in the general hospitals, inadequate, and have established state psycopathic hospitals in those cities, at least so in Philadelphia and Boston (I am not well acquainted with the situation in New York but had occasion to observe the work at Blockly Hospital). As you all know, while this is a general hospital, their psycopathic department is practicaly a separate institution in grounds to itself. Cases are sent from all the different clinics. The commitments are done in the hospital; if necessary delayed, and the hospital has a regular staff from the different teaching institutions.

In Boston they have been wrestling with this question for the past fifteen years, and finally established a state psycopathic hospital, only last year. Dr. E. E. Southard is its medical director, and also occupies the chair of neuropathology at the Harvard Medical School. A very interesting historical review by Dr. Channing of the establishment of this hospital is to be found in last November's Journal Nervous and Mental Diseases. I think you will find that under the California constitution, the insane are regarded as wards of the state and not the municipality. Hence to recommend the municipality's taking primary steps would seem to be going at the problem from the wrong end.

Instead of Dr. Wilbur's resolution, I should have very much preferred that this society go on record as in favor of the establishment in San Francisco of a state psycopathic hospital, with the co-operation of the municipality, and the privilege of availing itself of the teaching staffs of the two universities; this hospital to be distinct from the county or any other hospital. If we are unable to secure such a hospital at the present time, then the establishing of psychiatric wards in the County Hospital might be justified especially to fulfill the purpose of study and teaching. (Dr. Wilbur changed his motion to read "the establishment by the state of a central station for acute mental cases in San Francisco," etc.)

We must not forget that in the establishment of State hospitals their location in the county was largely due to the position of the medical profession, i. e., that about all that could be done for the insane was custodial care, where they could get fresh air and work on the farms, etc. We know that this applies only to a part of the mentally affected and that particularly acute cases of mental disorders are sick people and require correct diagnosis and the best hospital facilities possible. And since medical men have created this attitude on the part of the legislative bodies, I think it is up to us to correct that impression, and put the lawmaking bodies right as to the present status of scientific medicine toward mental disorders.

I do not agree with Dr. Brown that the alcoholic can be best treated in psycopathic wards, or anywhere else, unless he is primarily controlled, and I mean by control, legal control, without which practically all efforts at successful treatment are futile. The alcoholic who requires treatment requires control first. This is in accord with the large majority of those who have had extensive experience with these individuals.

Dr. H. C. Moffitt: I agree with Dr. McClenahan, and I would not care to go on record as favoring this proposition except as a makeshift, aiming eventually at an institution which is big enough, one modeled after the successful one lately opened in Boston. As I understand it, the committee is to confer with Dr. Hatch and prepare a proper scheme, of which this is a part.

Dr. Richards (closing discussion): This question of psychiatric hospitals or wards and of after care of the insane has become very active in many places in California. In Los Angeles they have already established psychiatric wards and an after-care society. As to the state establishing a psychiatric hospital in San Francisco, it would probably be advantageous to consider the question of the state's present obligations. One-third of the people of California live south of the Tehachapi Pass, and in that section there is only one state hospital. It is evident that the state must meet the need of an additional state hospital in that section. At present, in several of the state hospitals, the number of patients is in excess of the capacity of the hospitals, and the patients are sleeping in corridors and on the floors. At this time, therefore, the state has all that it can well do in regard to the establishing of hospitals. The question is not that we are doing the ideal thing in arranging for psychiatric wards instead of a psychiatric hospital, but that we are doing something. From the discussion here to-night I think it is perfectly well-established that co-operation is the thing that is chiefly needed. I believe that the committee to be appointed,—after consulting with Dr. Hatch,—will be able to report to the society the best measures possible. The work is practically one that follows from the beginning of mental disease in the locality in which it originated to the state hospitals. I wish distinctly to insist that state hospitals are not homes for incurables; but that in each of our state hospitals is a receiving department, where all possible measures are taken to effect speedy cures. We have a percentage of recoveries that is entirely satisfactory. But there is a wide field in the first care of mental cases,—the responsibility of which rests with the cities. In addition, it is true that the physicians in the state hospitals should have opportunity for post-graduate work in their particular lines in the medical centers of the state. I think that to-night we have seen a movement begun that will result, not only in the ultimate establishment of a psychiatric hospital, but in a national society for mental hygiene; that the work will begin in the medical society and be under the direction of medical men; and have an entirely harmonious development of the treatment of psychiatric diseases in the large cities. This is something for which we should be very grateful.

RAILWAY SURGEONS

REPORT OF A CASE OF SARCOMATOSIS.*

By J. H. O'CONNOR, M. D., and W. T. CUMMINS, M. D., San Francisco.

History: Mr. C. H., aged 49, an engineman, was admitted to the Southern Pacific General Hospital on September 23, 1911. His father and mother died of pneumonia. Patient stated that his habits were temperate, and that he had had gonorrhea but denied luetic infection. No other diseases were elicited. Present condition began three years before with a slight swelling in the left supraclavicu-

* Read before the Pacific Association of Railway Surgeons, San Francisco, August 30, 1912.

lar region. This gradually increased in size without pain or loss of weight.

Examination: Patient appeared well nourished. Pulse and respiration normal. No fever. Tongue clean. Thorax and abdomen negative. In the left supraclavicular region there was a firm, movable mass about the size of a hen's egg. Other superficial lymph nodes not palpable.

Urinalysis: September 23, clear, yellow, sp. gr. 1020. Acid. No albumin nor sugar. Uratic sediment.

On September 25 the supraclavicular nodule was removed under ether anesthesia. Cyanosis and dyspnea rendered oxygen necessary. Pathologist's report notes "that the tumor was the size of a small hen's egg, of soft consistency and having a thick fibrous capsule. The cut surface was white with numerous yellowish, soft areas. Sections show tumor to be made up of bands of connective tissue between which are areas of large cells with rather clear, oval nuclei arranged between delicate fibrils of connective tissue. Many of these areas show fatty degeneration of the cells and in the centres considerable necrosis."

Diagnosis: "Sarcoma" (Dr. H. W. Gibbons).

The patient remained in the hospital 43 days, having been discharged apparently well on November 6. Except for a period of 5 days beginning the day after the operation the pulse, temperature and respirations were normal. The maximum during this period was 100.6° On October 10, ½ minim of Coley's fluid was inoculated and this was repeated on October 13, 20, 23, 26, 30 and November 1. The only reaction in each instance was profuse perspiration.

He was readmitted to the hospital on May 23 with the following history in the interval: Evidences of tumor growth appeared at the site of operation one month after discharge from hospital. About the middle of February a small, superficial mass appeared in the right, lower, abdominal quadrant and this slowly increased in size. Just below the right clavicle a mass similar in character appeared about May 1. There were no subjective signs; the tumors were painless.

Examination: Large, stout, well-built man. Eyes, nose, ears and mouth apparently normal. Lungs negative but heart sounds were rather weak. A freely movable superficial nodule 1x2 cm. (lima-bean sized) was seen in the right infraclavicular region. Another nodule of about the same size was seen in the anterior abdominal wall, as above noted, and this was firmly adherent to the underlying tissues. Other smaller nodules were seen just to the right of the xiphoid cartilage, around the umbilicus, and over the biceps of the right arm. Reflexes were normal. There were no evidences of intracranial disease. The thyroid was apparently normal.

Urinalysis: May 24, clear, yellow, sp. gr. 1022. Acid. No albumin nor sugar. Microscopically negative.

On May 25 he was again operated upon and the tumor on the arm and those near the xiphoid and right clavicle were removed by wide incisions. There were no post-anesthetic complications. The tumors were of fleshy consistency, coarsely granular, and contained a moderate amount of blood. Several small areas of softening were seen, the consistency being that of thick cream. Microscopic examination showed each nodule to be made up largely of definitely circumscribed collections of cells with oval and round vesicular nuclei enclosing in many places vascular clefts. Many of these cells appeared spindle-shaped. Occasional karyokinetic figures could be seen. Some sections showed extensive necrosis. Here and there collections of lymphoid cells were noted.

On May 30 restlessness developed and on June 1 severe headache and nausea appeared. The following notes were made on June 8: "For the past few days the patient seems to have lost power of using the left arm. He has had severe frontal headache and seems drowsy much of the time. He appears uncomfortable in bed and frequently changes his posture. No aphasia. Slight paresis of left side of face. Temperature and tactile sense equal on both sides. Left arm shows marked weakness. All motions are performed slowly and with apparent effort of the will. Temperature and tactile sense present. Temperature sense is lost in left hand. He fails to localize tactile sensations in the fingers. Left leg is unaffected. Reflexes active. No Babinski, etc. Muscular power good." (Interne, Dr. Powers). Evidences of recurrence of mass near xiphoid were noted and the smaller nodules near the umbilicus rapidly increased in size.

On June 9 the patient became delirious for a short period of time and upon recovery from the same complained of severe headache. Restlessness was a prominent symptom. Dysphagia was noted on the 13th and on the following day there was a short period of coma. Weakness increased, the periods of coma became more frequent, Cheyne-Stokes' breathing developed and death occurred on June 16.

Clinical Diagnosis: Multiple sarcomata (sarcomatosis).

Postmortem Record: Moderately obese adult. Marked rigidity of extremities and moderate lividity of dependent parts. No eruption, scars, bruises, nor bed sores. Incisions from recent operation in epigastrium, over right clavicle and right upper arm. Eyes, ears, nose and mouth apparently normal. External genitalia normal. Superficial lymph nodes not enlarged.

Preliminary abdominal incision showed much adipose tissue. Peritoneal serosa smooth, moist and pale with normal amount of clear, yellow fluid in sac. Omentum contained much fat and extended to a point midway between the umbilicus and pubis. In the omental tissues (median line) and overlying the transverse colon a nodule was noted of flesh-like consistency and color and of horse-chestnut size (3x2x1 cm.). Overlying this and situated in the muscular tissues of the abdominal wall close to the preliminary incision and just above the umbilicus there was a nodule identical in general appearance wth the preceding but somewhat larger (5x5x3 cm.). Another nodule of intermediate size (5x3x1 cm.) was intramuscularly located just below the tip of the xiphoid cartilage. In the left iliac fossa near the attachment of the descending colon two lima-bean sized, chalky-white, pedunculated, fleshy, peritoneal nodules were observed. Further peritoneal examination revealed four soup-bean sized masses in the mesentery of the small intestine, the same in the left perirenal adipose tissue, one chestnut-sized nodule at the head of the gall bladder and the same between the bladder and the rectum. Position of organs normal. Diaphragm on left side at 5th rib and on right at 4th rib.

Spleen weighed 180 grams—12x7x2 cm. Color was gray and consistency rather soft. Capsule wrinkled and stripped with difficulty. Cut surface brownish red, pulp soft and trabeculae very prominent, while follicles were indistinct. No evidence of tumor metastasis. Liver weighed 1680 grams—22x15x6 cm. Color was pale, yellowish red and consistency rather soft. Capsule smooth but presented several pinkish white, slightly elevated, split-pea sized (5x10 mm.) areas the counterpart of which were found upon incising the organ. They were definitely circumscribed but were evidently not encapsulated. The intervening parenchyma was yellowish red. There were no signs of cirrhosis. Gall bladder was distended with dark green fluid. No calculi. Mucous membrane and wall apparently normal except at head where there was a soft, dark green nodule of chestnut-size projecting into the cavity. The ducts were patulous. The stomach wall was of normal thickness. Mucous membrane congested and focally hemorrhagic. The intestinal

mucosa was moderatelv congested throughout, while here and there small hemorrhagic points were seen. Mucosa of the colon was somewhat thickened and in the cecum and ascending colon follicular changes were observed. Appendix was 11 cm. long and showed moderate congestion of mucosa. Split-pea-sized concretion present at tip.

Pancreas weighed 270 grams—17x5x3 cm. Uniform induration of moderate grade was noted except for several small nodules of firmer consistency. General color was pinkish white.

Left kidney weighed 260 grams—10.5x6.5x4 cm. Considerable difficulty was experienced in removing the organ on account of the dense adhesions to the surrounding tissues. Dark red and flabby. Capsule stripped with difficulty. Incision showed moderate amount of blood. Color brownish red. Cortex moderately increased (10 mm.). Several pea-sized, pale, firm nodules were scattered through the cortex and medulla. Pelvis was apparently normal. Ureter and adrenal apparently normal. Right kidney weighed 190 grams—11x6x3.5 cm. It was similar in general appearance to its fellow except that only one nodule of pea-size was seen. Ureter and adrenal apparently normal. Bladder showed moderate diverticulation and thickening of wall. Prostate was about the size of a horse-chestnut but showed no evidence of metastasis, although there was a contiguous nodule, as before described. Rectal wall also was not involved. Testicles were apparently normal, while the left epididymis showed some nodular thickening.

Left pleural sac showed no excess of fluid and no adhesions. Lung weighed 610 grams—20x17x6 cm. Color was slatey gray with anthracosis. Surface showed a few small, pale, somewhat elevated, firm nodules. Upon incising these resembled those of the liver. Further incisions showed more nodules between which the tissues were uniformly crepitant and anthracotic except at the base of the lower lobe where some congestion and edema were seen. Right plural sac showed no excess of fluid and no adhesions. Lung weighed 910 grams—21x17x5 cm. Same general color as its fellow. Above mentioned nodules were less numerous but larger than in the left lung. They varied from the size of a millet seed to that of a horse-chestnut but of the same general color and consistency. Congestion and edema at the base of the lower lobe.

Pericardial sac showed a moderate increase of clear, yellow fluid. No adhesions. Heart weighed 380 grams—14x9x5 cm. Moderate amount of subpericardial fat. Coronary vessels apparently normal. Muscle dark red and somewhat flabby. Valves apparently normal. In the right lateral wall of the right auricle there was a fungoid, chestnut-sized mass 2x1.5 cm. projecting 0.75 cm. into the chamber, of pinkish color, firm consistency and with nodular surface. This extended to the subpericardial tissues. In the posterior wall reflected through the endocardium there was a split-pea-sized, yellowish, slightly elevated nodule. In one of the tricuspid papillary muscles near its distal end there was a millet-seed-sized, yellowish nodule embedded in the tissues. Aorta showed in its arch numerous large and small yellow plaques of sclerosis.

The thyroid gland was moderately enlarged, firm and somewhat paler than normal. Incising showed almost its entire substance to be yellowish white and in places cheesy, while there was no clear demarcation between this and the apparently normal tissues. Deep cervical lymph nodes were pea-sized and incisions showed uniformity of structure—pale and firm.

Brain: Weight 1290 grams—21x17x8 cm. Convolutions well formed. Meningeal vessels moderately congested. No exudate nor fibrous thickening. Distant 1.5 cm. from the longitudinal fissure in the right parietal lobe there was a gray, non-elevated, soft, definitely circumscribed area about the size of a quarter dollar—2x2 cm. Meningeal surfaces elsewhere were negative. Upon incising the right hemisphere this mass was found to extend well into the temporo-sphenoidal lobe with its axis at right angles to the longitudinal fissure and throughout its entirety without cortical invasion. It was materially softer than the surrounding tissues and clearly demarcated therefrom; gray in color; with points of hemorrhage—6.5x5.5x3 cm., the latter being the depth of the mass. Upon incising the left hemisphere just below the cortex there was found almost directly opposite the above and equidistant from the longitudinal fissure, an area similar in color, consistency and demarcation and of pea-size. Close to this was an area of hemorrhage. The cerebral tissues in both hemispheres were uniformly pale and soft. The cerebellum was apparently normal. The pons showed punctate hemorrhages. (The spinal cord was not removed.)

Histologic Examination: Brain: Sections of the right parietal lobe showed a clear demarcation of the tumor from the surrounding normal tissues. In places the intervening zone showed hemorrhage. Where the tumor appeared upon the serous surface of the organ there were no remains of meninges but in adjacent areas there was no evidence to show that the tumor had a meningeal origin. The cells composing the mass were multiform, i. e., stellate, spindle-shaped, oval, round and other bizarre shapes—all with round or oval vesicular nuclei which here and there showed karyokinetic figures. These cells were for the most part arranged in irregular masses—wide and narrow bands and circular masses. There were several blood vascular channels (filled with erythrocytes) which were completely enclosed by these cell masses, while in addition there were a few similarly enclosed clefts, the vascularity of which was indefinite. Congestion was moderate, a few hemorrhagic areas were seen. A number of necrotic areas were scattered through the tumor. Sections of the left parietal lobe through the previously mentioned pea-sized nodule showed it to be made up of tissue identical in appearance with that immediately described. Sections of the apparent hemorrhagic area showed it to be another tumor nodule—a counterpart of the preceding ones—with considerable necrotic and hemorrhagic changes. Thyroid: Sections through the isthmus showed necrosis as a feature. Elsewhere, cellular masses were seen in conformation similar to the preceding. No stellate cells were to be seen. Vascular channels were few. The thyroid tissue itself showed atrophic acini and very small amounts of colloid.

Heart: Sections through the fungoid, auricular mass showed closely massed cells of the forms noted in the thyroid. Vascular clefts were few. Several hemorrhagic and necrotic areas were present. Sections through the smaller auricular nodule revealed a similar structure while from those through the involved papillary muscle no satisfactory examination could be made. Lung: Sections through a medium-sized tumor nodule showed the cells and conformation of masses similiar to the thyroid. Scattered collections of lymphoid cells were evident, as well as a few necrotic areas. The adjacent pulmonary tissues were moderately congested, fibrous and anthracotic. Spleen: There was moderate capsular and trabecular fibrosis, as well as congestion. The small follicular arteries showed hyalinization of their walls. There was absence of tumor metastasis. Gall Bladder: Sections of nodule showed structure similar to thyroid. Pancreas: Sections through grossly described nodules showed indefinitely outlined tumor masses closely resembling that of the thyroid. Moderate congestion and several necrotic areas were noted. Elsewhere the tissues were fibrotic. Small Intestine: There was moderate fibrosis and round cell infiltration of the mucosa and submucosa. Kidneys: Moderate cloudy swelling of the cortical epithelium

and moderate hyperemia were evident. Tumor masses were indefinitely outlined but identical in structure with the thyroid. Several hemorrhagic areas were included and at the margins of the nodules collections of round cells were seen. Prostate: Many acini contained corpora amylacea. Some hyperplasia of the connective tissue noted. No tumor metastasis. Testicle: Moderate degree of fibrosis present. Peritoneal, retroperitoneal, mesenteric, omental and retrovesical nodules showed tumors identical in type with that of thyroid. The same may be said of the intramuscular growths in the anterior abdominal wall. Deep cervical lymph nodes showed lymphoid hyperplasia but no metastasis.

Pathologic Diagnosis: Endotheliomata of the thyroid, cerebrum, heart, lungs, liver, gall bladder, pancreas, kidneys, peritoneum and anterior abdominal wall; chronic interstitial pneumonitis; splenitis; pancreatitis; enteritis and appendicitis; acute parenchymatous nephritis; chronic prostatitis and orchitis; lymphoid hyperplasia of deep cervical lymph nodes.

Remarks: The following points in this case are of interest: the multiple peripheral foci, the extensive internal metastasis, the almost complete involvement of the thyroid without evidences of hypo- or hyperthyroidism, and the widespread destruction of the right parietal lobe with the first appearance of cerebral symptoms only two weeks before death. All the tumors had uniformly the same structure, except that there were numerous stellate cells in the cerebral masses and an absence of the same elsewhere. With the vascular channels, the forms and arrangement of the cells, endothelioma was suggested; however, there seemed a possibility that the cerebral condition might be gliosarcomatous. Mallory's and Van Gieson's stains excluded the latter. It is likely that the primary focus was situated in the thyroid on account of the almost complete involvement and widespread necrosis of the same with the presence of a single mass and that the brain was secondarily invaded as indicated by the multiple masses.

A FEW REMARKS ON THE MANAGEMENT OF TYPHOID.*

By G. R. CARSON, M. D., San Francisco.

About fifty or sixty typhoid patients of all types enter the Southern Pacific Hospital every year; walking typhoid, para-typhoid and severe hemorrhagic types. Some of these cases arrive in the first week, others in the second and third weeks. Some are transported from quite a distance; so we have a fairly good opportunity for observing and studying this disease. I have observed some five hundred cases during the past few years, from the days of the strictly milk diet and ice cold baths to the days of forced feeding and the tepid sponge. Naturally some of these observations have left rather marked impressions on me.

It is not necessary to give a typhoid drugs just because he has the disease; the less drugs the better the case will do. There is far too much unscientific prescribing. It is a mistake, and one that is very prevalent to believe that therapeutics means treatment only. Therapeutics covers the whole field of management of the disease. It is a mistake for a physician to declare he has cured typhoid; what he does do is to manage the disease and the patient who has it. The details of this management, diet, physical treatment, and lastly medical necessities, comprise the therapy of the fever. In other words, more therapeutics and less medicines in typhoid.

Why should we not feed our typhoids when Nature calls out so for assistance? Are we to remain blind to this call? If he is hungry, feed him—a moist tongue and an appetite is a good guide. The mortality is lessened by feeding. Years ago at the Southern Pacific Hospital our mortality was about 12 per cent.; it is now about 2 to 3 per cent., and some years no per cent.

It is a mistake to begin with a milk diet and later during the height of the fever commence feeding your case. Start with a good varied diet from the onset. A liberal diet of high caloric value is indicated to keep up the body weight. Dr. Warren Coleman of Cornell, whose recent articles have appeared in the medical journals, has done much work along this line. In fact one of his recent associates informed me that he gave a prize to the typhoid who ate the most. The well-fed typhoid goes through the disease happier and more contented. Tympanites and other complications are lessened and we really have not any sequela with which to deal. The convalescent stage is virtually eradicated. It is doubtful if it ever will be determined that any one diet is the only correct one for typhoid fever—the patient has his dietary habits and his ability to digest certain foods during typhoid fever must be individualized. Therefore a diet correct for one patient may be absolutely incorrect for another.

Also such complications as diarrhea, hemorrhage and vomiting must be considered. It is often necessary to stop all feeding for a time. The diet now in use at the Southern Pacific Hospital is varied and mixed and consists largely of eggs, milk, oatmeal gruel, tea, coffee, cocoa, rice, wine and orange jelly, various soups, crackers with milk, soft puddings, ice cream, soft toast, apple sauce, buttermilk, finely minced lean meat, soft part of raw oysters and many other articles of food. Salt and sugar are used enough to flavor. The food is given in small quantities every two hours during the day and every four hours during the night if patient is awake, but must not be disturbed, as sleep is very essential. The object in mind being to administer enough of all, to keep the physiological process as near normal as possible while the patient is going through the disease. It is well to give an abundance of water to drink.

As to baths, the tepid friction bath is more agreeably borne by the patient and good reaction is usually secured; the ice cold bath has about been discarded. Cleansing baths are given daily. Occasional use of the ice-coil to head and abdomen keeps the patient quiet and comfortable and tends to keep down the fire. When a patient reacts well from a bath it is the proper one for him. By reaction is meant, the effect on the circulatory, respiratory and nervous system.

Salt solution enemas are given as a routine, three times in twenty-four hours if the temperature remains high. It lessens the toxemia, increases the

* Read before the Tenth Annual Meeting of the Pacific Association of Railway Surgeons.

flow of urine and diminishes the liability to tympanites. Low enemas are given every other day for constipation and no purgatives by the mouth. Hemorrhage cases are treated in the usual way—all feeding is stopped for a while. Horse serum, morphia, subcutaneous salt solutions, calcium lactate, turpentine, etc., may be used. If tympanites can be lessened the hemorrhage usually ceases.

For cardiac failure the hot mustard pack is often used to dilate the peripheral circulation and bring the skin heart to the assistance of the organic heart. Also the use of strychnia in large doses, digitalis and camphorated oil are to be recommended. Immediate operation saves some cases of perforation. A few cases have had autogenous vaccines, but they did not seem to change the course of the disease. Schafer serum or vaccine was used on a few cases as a last resort; these cases recovered, but just how the vaccine acted was not known. A few cases were kept on an exclusive buttermilk diet, but the fever was little influenced. Have not used the typhoid prophylactic vaccine, but should a case be diagnosed during the first few days of onset it might be of service in aborting the case. Some observers have noticed this in a few instances.

Hiss leukocyte extract has been used to produce a leukocytosis in this leukopemia disease—it does produce a leukocytosis but does not help the patient.

None of our typhoid patients are discharged from the hospital as cured until a final examination is made of the urine and stools and found free from the typhoid germ, as a typhoid carrier in a railroad camp is a dangerous thing.

Discussion.

Dr. T. W. Huntington: For many years I have maintained an acute interest in this department of medicine. Regarding the treatment of typhoid fever, I, very early, satisfied myself that one measure, above all others, is essential as a therapeutic agent, and I have seen no reason for changing my opinion since I abandoned this line of work. I refer to the ice coil used intelligently and persistently throughout the acute stage of the disease. I think I may say, without fear of challenge, that I was the first person to devise and use the ice coil. Long before Leiter made his announcement, I had used the ice coil in typhoid fever. The results which attended my efforts when I was enabled to employ the coil, early in the course of the disease, were to me remarkable. Its employment means a uniformly low temperature from the beginning to the end of the disease; that is, the range of temperature may be maintained at from 99° to 103°, with an average high temperature of 101°, save in a few rare cases. Under its use, the patient sleeps quietly at night, takes and assimilates a reasonable amount of nourishment, maintains his weight with slight loss. His mental condition is slightly, if at all, below normal. There is an absence of delirium, nervous irritation, diarrhea, tympany and bowel hemorrhage. Bowel perforation is of exceedingly rare occurrence, if encountered at all. A thing which impressed me very deeply was that, when the coil treatment has been intelligently carried out for three or four days, the patient and the patient's friends always sharply resent any interruption of its use. In a few cases, where the ice coil fails to control the temperature, it may be supplemented by a judicious use of phenacetin. This is insisted upon by so able an authority as Dr. W. A. Briggs of Sacramento, who maintains that the use of phenacetin in typhoid fever is not only safe but rational, and in a few cases essential. Another method of control of temperature is ice water irrigation of the rectum. This may be used through a double current catheter and the flow be made, thereby, continuous. Under its use the temperature should be carefully noted, as frequently it drops rapidly under this method of procedure.

Dr. Cummins: In regard to the vaccine treatment. Vaccines, as you know, may be used for prophylactic or therapeutic purposes. We have not used it prophylactically at the hospital, but we have used the autogenous vaccines on two cases for therapeutic purposes. These cases were mild and they made a very rapid recovery. It is said that particularly severe cases are not suitable for the administration of vaccine. A German method is to immunize rabbits against typhoid. Their spleens are then removed, macerated in sterile salt solution and given to the patient by mouth. It seems a rational procedure, but very little work has been done in this country on that treatment of typhoid.

Dr. Carson, closing: We have recently had an epidemic of typhoid fever among train employees on the same run; engineers, firemen and brakemen came to the hospital who had run on trains between certain points. A thorough investigation was made by Dr. Cummins and prophylactic measures adopted. Since then no new cases have occurred in that district. The tender on the engine is filled with water from various tanks along the line, hence firemen and enginemen, who drink from the tender are more liable to contract typhoid; furthermore, firemen and engineers drink eight or ten times more than those in other occupations. I hardly agree with Dr. Huntington regarding the ice coil. It is very agreeable to the patient and tends to keep down the fever. Colon irrigation with salt solution is very beneficial; it increases the flow of urine, tends to diminish the liability of tympanites and causes a favorable reaction; also makes up for the deficiency in salt in the feeding. I am rather opposed to the use of phenacetin and other coal tar products in the treatment of typhoid. I like to know how my patient is doing. Phenacetin depresses the heart's action and tends to hide the true condition of the patient. Much harm I believe has been done in the past by improperly giving ice cold baths; this drives the blood into the deeper organs and congests them. Regarding feeding of typhoid, I am fully convinced that a liberal diet should be adopted from the beginning of the disease.

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US YOUR

CHANGE OF ADDRESS,

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ASSOCIATION NEWS.

Membership in the American Medical Association. The Proposed Change in Name.

GEORGE H. SIMMONS, M. D., LL. D., Chicago.

Explanatory Note:—This abstract of an address before the Conference of State Secretaries is republished from the American Medical Association Bulletin of November 15, 1912, on the request of the Judicial Council. The House of Delegates referred the report of the committee to formulate amendments to the Constitution and By-Laws to extend membership, presented at the 1912 session (Journal, June 15, 1912, p. 1899) to the Judicial Council with power to confer with constituent associations. The Council, after careful consideration, endorses the proposed change and takes this means of bringing the subject to the constituent associations as well as directing to it the attention of the members.

I have been asked to discuss the present conditions of membership in the American Medical Association and the proposed change, which has been under discussion recently. While this is not directly related to the object of this conference, the discussion of uniform regulation of state membership, it is so closely connected with it that I can not refuse to take advantage of the opportunity of discussing the question before such a large representation of state secretaries.

To get a clear understanding of what the present term "members" of the American Medical Association means, it is necessary to go back a little in the history of the Association.

The American Medical Association always has been a delegated body; only "delegates" ever had a right to take part in its proceedings.

"Permanent members" was a term originally applied to those delegates who connected themselves permanently with the Association after they had served as delegates. "Permanent members," however, had no rights except those of attending the meetings and taking part in the scientific work. In 1883, the Journal was started and the following year, for the purpose of increasing the circulation of the Journal, there was created another class: "Members by Application." A member of any so-called affiliated society could become a "member by application" simply by making application for membership and paying the annual dues. The difference between "members by application" and "permanent members" was that the latter had been delegates, whereas the former became members simply by making application. Neither "permanent members" nor "members by application" had vote or voice in business meetings.

Membership in the A. M. A. Today on the Same Basis as the Former "Members by Application."

Briefly, we have the following situation:

1. The voting membership of the organization is the combined membership of all the 2,000 (more or less) component county societies, amounting approximately to 70,000 members. These elect the delegates to the House of Delegates of the state associations; they in turn elect the delegates who form the House of Delegates of the American Medical Association. Before 1901 the delegates to the American Medical Association were elected, or appointed, by the "affiliated" societies, which included local, district and state societies. Since 1901, that is, since the reorganization, the delegates to the national body are elected not by local, district and state societies, but by the state societies alone.

2. The so-called "members of the American Medical Association" are the direct successors of the old "members by application." By their payment of dues and their subscriptions to the Journal, they were and are today the supporting or contributing group of the members of the organization.

3. The House of Delegates is composed of approximately 150 members, who are elected by the various state Houses of Delegates, which are in turn composed of delegates elected by the members of the component county societies. The House of Delegates of the American Medical Association, therefore, is created by, and represents the combined membership of all the county societies of all the states; it is not elected by, nor does it represent, the present "members of the American Medical Association" as such; it never has.

The result is that we have two classes which could be called members. First, the actual, logical memberships of 70,000, usually designated as "the membership of the organization." Second, the 36,822 contributing or supporting members, who are designated as "members," although these "members of the American Medical Association" have no more privileges than have all members of the organization, except the right to take part in section work. This present situation I have had shown on the accompanying chart (Chart 1). The membership of the American Medical Association, at present 36,822, is an inner circle of the membership of county societies, while the House of Delegates is a still smaller circle composed of those who have been elected to represent the members of the organization of the whole country.

Now the situation itself is perfectly logical and is in every way to be commended. The trouble is that we have not named our groups accurately. Those whom we now call "members of the American Medical Association" are really those members of the organization who, in addition to supporting their county and state associations, also contribute to the support of the American Medical Association, while for the actual membership of 70,000 members we have no distinctive name.

The change that has been proposed is not a change in condition at all. It is simply a change in name. It is proposed to designate the 70,000 members included in the large outer circle (Chart 2) as "members of the American Medical Association," which they really are and always have been, while those included in the inner circle (that is, those members in good standing of their county and state societies, who also pay $5 a year to support the work of the American Medical Association) are to be called "fellows of the American Medical Association" instead of "members." This will make no change in the membership standing or relations of any man. If this suggestion is adopted, all members in good standing in their state organizations will be designated as "members of the American Medical Association," while those members who contribute $5 a year to support the work of the Association will be designated as "fellows of the American Medical Association." In other words, those who are now known as "members" of the American Medical Association will be known as "fellows" of the American Medical Association, while the term "members" will be applied to the entire, combined membership of the component county societies of the whole country.

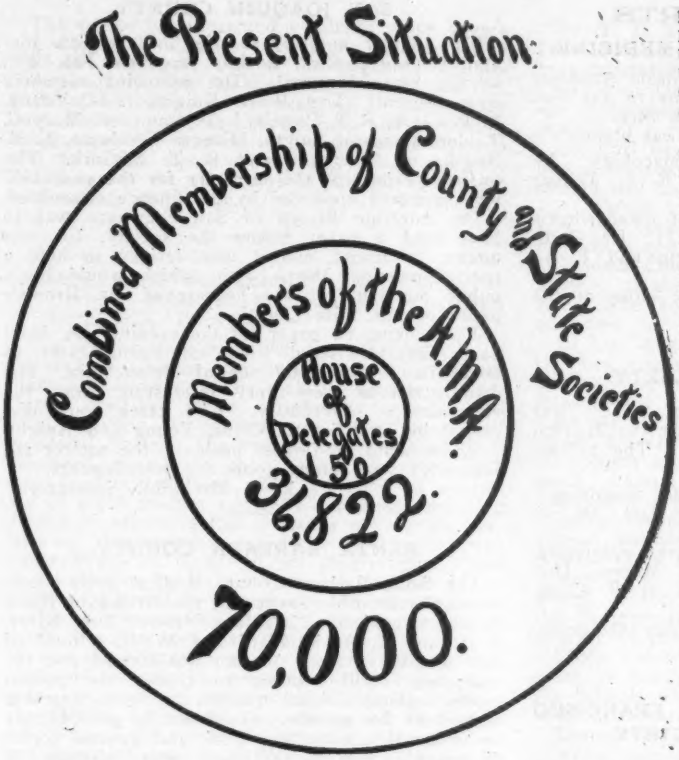

Chart 1

This plan has several advantages. In the first place it will give us a name for the entire membership of the organization, which we have never had before. Before 1901 they were referred to as members of "affiliated" societies, and since then they have been called, for lack of a distinctive name, "members of the organization." Another advantage will be that it will make clear that the voting power lies with the 70,000 members and not with the 36,822 "fellows." When this plan was first proposed, some got the impression that the intention was to compel the 70,000 members of the county societies to become "supporting members" of the American Medical Association, as the term is now understood. This, of course, would be a ridiculous proposition. The proposed change contemplates leaving membership conditions exactly as they are; it contemplates changing the name, and not the relation.

One great disadvantage prior to the reorganization of the American Medical Association in 1901 was the fact that we had no name by which to designate the delegates. As soon as the name "House of Delegates" was adopted, then the function of the delegates became clear at once. The Association also has labored under the disadvantage, ever since its reorganization, that there has been no name by which to designate the actual voting membership, because the term "members" had been applied to the supporting body. The proposed change simply recognizes this fact, designating as "members" those who really are members, and designating the supporting members as "fellows."

I have already given some reasons for making the change, but there is another and more important; in fact, it is the paramount reason. Up to the present time, the members of the organization have not realized that they are, in reality, members of the American Medical Association. They regard the American Medical Association as something entirely apart from them, something in which they have no interest. These members of the organization are through their elected representatives responsible for what the American Medical Association is doing, or what it ought to do and is not doing, but they do not realize this, hence they are not interested. They do not appreciate that the House of Delegates of the American Medical Association, which they elect, is the body that is doing the work through the officers, trustees, councils, etc., which they through their representatives in the House of Delegates of the American Medical Association, select. While only a change in name, I think the subject is of the utmost importance. I hope that all of you will look into it carefully, so as to understand exactly what is intended, and then will explain it to your members at the first opportunity.

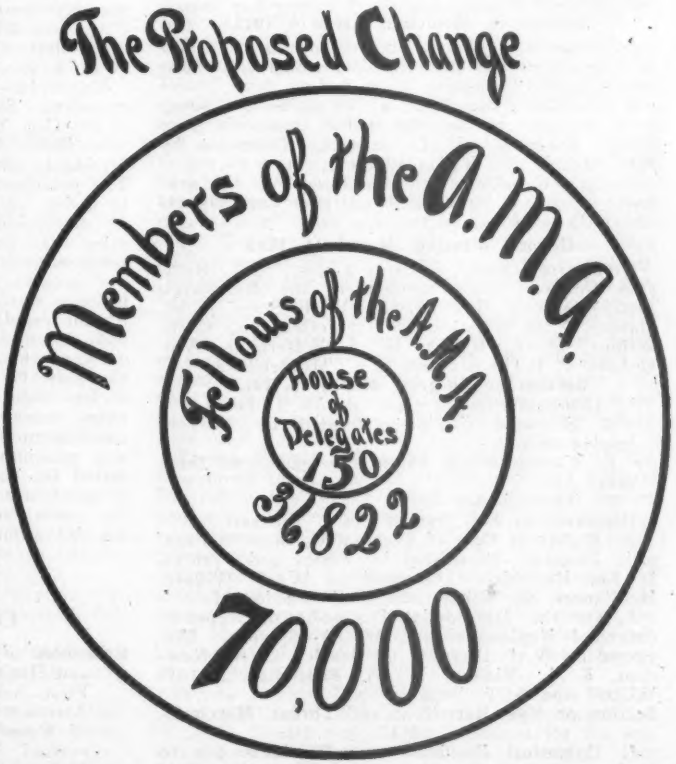

Chart 2

SOCIETY REPORTS

CALIFORNIA ACADEMY OF MEDICINE.

The regular meeting of the California Academy of Medicine was held in the rooms of the San Francisco Medical Society on March 24th.

The following scientific program was given:

1. Some new problems in Pharmacology. Albert C. Crawford. Discussed by R. L. Wilbur and Rene Bine.
2. Presentation of three cases of osteoarthritis of spine; two luetic, one Neisser (?). Dr. C. C. Crane. Discussed by S. J. Hunkin and R. L. Wilbur.

Refreshments were served at the close of the meeting.

COOPER CLINICAL SOCIETY.

A meeting of the Cooper Clinical Society was held on the evening of April 7th at the Medical Department of Stanford University. The following scientific program was given:

1. The Diagnosis of Gall Bladder Conditions. Dr. James Eaves. Discussed by Drs. W. F. Cheney and Emmet Rixford.
2. Report of a Case of Puerperal Eclampsia, with Autopsy Findings. Dr. C. B. Moore. Discussed by Drs. A. B. Spalding, W. R. B. Clark, J. J. Hogan and H. R. Oliver.
3. Report of a Case of Pulmonary Gangrene. Dr. J. A. Cutting.

PROCEEDINGS OF THE SAN FRANCISCO COUNTY MEDICAL SOCIETY.

During the month of March the following meetings were held:

Section on Medicine, March 4, 1913.

1. Absence of Brain Tumor Symptoms in Cases of Tumors of the Brain. W. F. Beerman. Discussed by J. Rosenstirn.
2. The Paralytic Type of Ptomaine Poisoning with reference to the Differential Diagnosis from Bulbar Paralysis. E. O. Jellinek. Discussed by Wm. Ophuls and R. L. Wilbur.
3. Subacute Atrophy of the Liver. E. C. Dickson. Discussed by L. I. Breitstein, Wm. Ophuls and J. Rosenstirn.

General Meeting, March 11, 1913.

Psychiatric Duties of Large Cities. R. L. Richards (Medical Superintendent of the Mendocino State Hospital). Discussed by W. F. Snow, F. W. Hatch, D. D. Lustig, C. D. McGettigan, R. L. Wilbur, H. C. Moffitt, H. J. Waterman, Wm. Ophuls, P. K. Brown and H. C. McClenahan.

Section on Surgery, March 18, 1913.

1. Demonstration of Cases by W. I. Terry.
   A. Sporadic Cretinism treated by Thyroid Implantation.
   B. Case of Gritti Amputation performed three years ago.
   C. Thyroglossal Cyst.

   Discussed by Sol. Hyman and L. Eloesser.
2. Report of Case of Urethral Calculus in Prostatic Division; Illustrated by Plates and Figures. D. Lee Hirschler. Discussed by W. P. Willard, H. Somers, M. Molony and G. C. Macdonald.
3. On the Differential Diagnosis of Appendicitis and Nephrolithiasis. M. Krotoszyner. Discussed by W. I. Terry, S. O. Beasley, Alfred Newman, R. L. Rigdon, W. A. Boardman, W. P. Willard and S. T. Pope.

Section on Eye, Ear, Nose and Throat, March 25, 1913.

1. Hysterical Blindness and Blindness due to Lesions of Occipital Lobes. L. Newmark. Discussed by W. F. Blake, K. Pischel and V. Hulen.

SAN JOAQUIN COUNTY.

The regular monthly meeting of the San Joaquin County Medical Society was held Feb. 28th at the State Hospital. The following members were present: Drs. R. B. Knight, J. D. Young, F. P. Clark, B. J. Powell, J. D. Dameron, Mary C. Taylor, Margaret Smyth, Minerva Goodman, E. R. Brooks of Riverbank and R. T. McGurk. The financial report of the secretary for the year 1912 was read and approved by the finance committee.

Dr. Adelaide Brown of San Francisco was to have read a paper before the society, but was unable to attend, and it was decided to hold a special meeting March 14th, which would be a public meeting, for the hearing of Dr. Brown's paper on the Milk Question.

There being no paper for the evening, Dr. Margaret Smyth showed some interesting cases of Dementia Praecox and one of Melancholia. The demonstrations were very interesting from the viewpoint of Psychiatry. The cases were discussed by Drs. Smyth, Clark, Young and Knight.

There being no further business, the society adjourned to the dining room for refreshments.

R. T. McGURK, Secretary.

SANTA BARBARA COUNTY.

The Santa Barbara County Medical Society met in regular monthly session at the Arlington Hotel at 8 p. m., March 11, 1913. Present: Drs. Barry, C. S. and T. A. Stoddard and Wells, a total of four members. As a quorum was lacking and the amendment still pending to change the constitution making a legal quorum of three members instead of five members could not be passed, only an informal session was held, and general topics discussed. But a resolution was adopted of sympathy for the society's vice-president, temporarily confined at St. Francis Hospital, San Francisco, which was duly telegraphed him per night letter. The meeting then adjourned to await a special call by the president.

March 15.—Special adjourned meeting at call of president. Said special meeting was held at office of Dr. Geo. Wells, on upper State street. Present: Drs. Barry, R. Brown, Morrey, C. S. and T. A. Stoddard, and Wells. A total of six members. The president, T. A. Stoddard, called the meeting to order. No clinical cases were presented, and no discussion of medical practice laws was had other than Dr. C. S. Stoddard seemed to voice the sentiment of the members present in claiming that our present medical law in where it related to practice was a good code and should be let alone. As the regularly elected delegate to State Society had permitted his dues to lapse the president declared his office vacant, and appointed the alternate, Dr. Rexwald Brown, in his place. The society then elected Dr. C. S. Stoddard as alternate delegate. The proposed constitutional amendment making three members a legal quorum was unanimously passed. The society then reinstated Dr. C. C. Park as a member and adjourned to meet in regular session in April, agreeing that the coming session be preceded by social dinner at the Arlington Hotel.

WILLIAM T. BARRY, Secretary.

BOOK REVIEWS

Principles of Hygiene: For Students, Physicians, and Health Officers. By D. H. Bergey, M. D., First Assistant, Laboratory of Hygiene, and Assistant Professor of Bacteriology, University of Pennsylvania. Fourth edition thoroughly revised. Octavo of 529 pages, illustrated. Philadelphia and London. W. B. Saunders Company. 1912. Cloth, $3.00 net.

The author has presented a volume which covers his subjects in a most satisfactory manner. The style of writing as well as the terseness and accuracy of the text leave nothing to be desired. Each of his chapters is entirely up to date; those on water and sewerage purification, and immunity, being especially modern. The student of hygiene will find this book contains as much accurate knowledge of the subject as is possible to present in a volume of its size. D. H. C.

"Malaria, Cause and Control." By William B. Herms. Published by Macmillan Co., New York, 1913. Price $1.50.

Professor Herms has given the practical side of the malaria problem, particularly as applied to our State of California. The malaria parasite is very clearly described as to morphology and life history including its residence in both human and mosquito hosts. The mosquitoes are also well discussed, giving the characteristics of both culicines and anophelines. The methods of control are of great interest and fully explained, including details of several actual crusades against the malaria-carrying mosquito which have been conducted under Professor Herms' direct supervision. There is a lesson to be derived from this modest monograph which will be of value to all who have the health of communities at heart—the simple, direct, comprehensive methods; the arousing of interest in and the education of the people living in the infected districts, the securing of local and state aid, the successful enlistment of school children as effective assistants, the rousing of the public lay press. All these factors are but excellent examples for others to follow, not only in the campaign against malaria, but also in any warfare against other infectious diseases. To repeat, the value of this book lies as much, or more, in the spirit and method in which the work was conceived as in the actual work itself. G. H. T.

NEWS NOTES FROM NEWSPAPERS.

A new ward has been added to the Sisters' Hospital at Sacramento.

Kings County has a new health officer in the person of Dr. C. L. Scott.

San Luis Obispo has taken an option on a piece of land for a new county hospital.

Tulare County Medical Society met at Lindsay on April 9th and discussed clinical cases.

Several deaths of those who have been inflicted with the Friedmann serum are announced.

Mrs. Rosa Gauragna was sentenced to two years in San Quentin for performing an abortion.

Dr. James H. McBride has been elected a member of the board of education of the city of Pasadena.

Dr. A. W. Morton, chief surgeon of the Santa Fe in San Francisco, recently married Dr. Ada Scott-Connors.

Fowler is to have a sanitarium if the present plans of a number of physicians and other citizens do not go astray.

Ventura County Society held its meeting for March at Santa Paula, the scientific discussion following a banquet.

The Long Beach Physicians' Club entertained Dr. Harvey W. Wiley when he was out this way on a lecturing tour.

Fresno is going to make a great effort to compel all dog owners to muzzle their pets, this summer, and put a stop to rabies.

Merced County supervisors have ordered plans prepared for an addition in the shape of a detention ward, to the county hospital.

Dr. F. E. Trotter, of the Public Health Service (who used to be stationed at San Francisco), has been promoted to the rank of Surgeon.

San Luis Obispo's Emerson Club had the pleasure of listening to a paper by Dr. Stover on the subject of a physician's life and work.

Dr. Carl Renz wishes to state that he is leaving San Francisco for a number of months; his stay abroad will last till the end of the year.

At Colfax a case of rabies, the victim being a boy, has been reported and it is understood that the boy is getting the Pasteur treatment.

Sonoma County Medical Society held its April meeting at the office of Dr. S. Z. Peoples, Petaluma. The subject of Obstetrics was generally discussed.

In Los Angeles the applicants for positions in the city engineer's office are to be subjected to an examination to determine whether they have tuberculosis.

At San Diego, Dr. Frederick A. Cook gave a talk to the San Diego County Medical Society in April; his subject was "Eskimo Doctors and Arctic Diseases." About 45 members attended.

Riverside County Society has developed a very valuable feature; every little while they have a clinical meeting at which every physician present is required to report some case of interest.

Meningitis, of the acute epidemic type, has appeared in the vicinity of Bakersfield and also in the Sacramento valley, though not a very large number of cases have as yet been noted.

Chico had the misfortune to have a number of cases of smallpox in the early part of April and the schools were ordered closed. But let us not insist upon vaccination; some people do not like it.

The nurses of the state have been actively campaigning against the "eight hour bill" as it applies to nurses and for a bill to examine and register nurses and permit those registered to use the letters "R. N."

A torpedo boat destroyer was sent on a new errand about the middle of April, when the "Paul Jones" was rushed to a Mexican port carrying meningitis serum to the "California," on which ship meningitis had broken out.

Friedmann's press agent has certainly stirred things up pretty generally all over the country, but here and there one may find a newspaper that has been honest with its readers and has not printed the "canned" news sent out by the press agent.

Dr. George Tucker of Riverside, who has been in Sacramento during the session of the legislature representing the California Public Welfare League, delivered a number of addresses in various parts of the state during March and the early part of April.

San Bernardino County has the highest death rate of any county in the state and Riverside is second. This is due to the fact that so many persons having tuberculosis in an advanced stage, come to the sunny southland for a little comfort before they die.

Fresno County will suffer a distinct loss in the retirement of Dr. Geo. H. Aiken as Health Officer. Dr. Aiken has turned in his ninth annual report and with it the information that he desires to retire from the work and will not accept a reappointment.

Stockton is to continue the work of medical inspection of school children which has been found to be of tremendous value in that community, in spite of the opposition of a few cranks who do not like to be told that their children are defective or need medical care.

Solano County Medical Society held its March meeting at the Vallejo General Hospital. Dr. W. S. S. Young was elected president for the ensuing year and Dr. A. V. Doran secretary. Dr. Planton Vallejo was elected an honorary member; he is a descendant of the old family of Vallejos famous in the history of California.

HOW GENEROUS!

Pacific Surety Company, San Francisco, Calif.

Schedule of Fees which the company agrees to pay and the undersigned physician agrees to accept for the treatment of injuries received in connection with liability policies of the company.

Minor Surgical Operations.

Contused, incised, lacerated or penetrating wounds, burns, scalds, etc	$ 2.00

Amputations and Excisions.

Amputation of one or more fingers or toes	5.00
Amputation of leg, foot, arm, forearm or hand	25.00
Amputation of leg at hip joint	40.00
Amputation of arm at shoulder joint	40.00
Amputation of leg at thigh	40.00
Excision of shoulder, knee, elbow, wrist or ankle joint	25.00
Excision of hip joint	40.00

Fractures

Of bones of hands or feet	5.00
Of rib or ribs	5.00
Of fibula	5.00
Of scapula, arm, forearm, clavicle, patella or jaw	10.00
Of femur, tibia or both bones of leg	15.00
Comminuted fracture of arm or leg	15.00

Dislocations

Of bones of hands or feet or jaw	5.00
Of shoulder, elbow, wrist, knee or ankle	10.00
Of hip	25.00

Eyes.

Removal of foreign bodies from eye	1.00
Enucleation of eyeball	20.00

Miscellaneous.

Ligature of artery (not in open wound)	25.00
Trephining of skull	20.00
Catheterization	2.00

Instruments, anesthetics, splints, medicines, dressings or anything necessary for the performance of any operations, or for the treatment of injuries, will be provided without extra charge.

When assistance is necessary, one-third of the above rates will be charged for such assistance; the charge for assistant in administration of anaesthetic shall not exceed Five Dollars ($5.00).

Services not enumerated above shall be charged for at proportionate rates.

Dated at.....this.....day of .....19...

PACIFIC SURETY COMPANY.

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Physician.

NEW AND NON-OFFICIAL REMEDIES.

Since publication of New and Non-Official Remedies, 1913, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Non-Official Remedies":

Meningococcus Vaccine contains in each Cc. about 1000 million killed meningococci. G. H. Sherman, Detroit, Mich. (Jour. A. M. A., March 1, 1913, p. 665.)

Staphylococcus Pyogenes Aureus Vaccine is marketed in two strengths: 1. Containing in each Cc. about 300 million Staphylococcus pyogenes aureus. 2. Containing in each Cc. about 600 million Staphylococcus pyogenes aureus. G. H. Sherman, Detroit, Mich. (Jour. A. M. A., March 1, 1913, p. 665.)

Staphylococcus Pyogenes Albus and Aureus Vaccine contains in one Cc. Staphylococcus pyogenes albus and aureus each 600 million. G. H. Sherman, Detroit, Mich. (Jour. A. M. A., March 1, 1913, p. 665.)

Pneumococcus Vaccine is marketed in two forms: 1. Each Cc. contains about 40 million killed pneumococci. 2. Each Cc. contains about 100 million killed pneumococci. G. H. Sherman, Detroit, Mich. (Jour. A. M. A., March 1, 1913, p. 665.)

INSTRUCTOR FOR MIRAJ MEDICAL SCHOOL.

A teacher of Physiology, Chemistry, Physics, Biology and Bacteriology is needed to work in connection with the Presbyterian Mission Hospital Medical School and Leper Asylum at Miraj, West India. A man who has a knowledge of X-ray work is preferred.

The medical graduate who is appointed to this position will have opportunities for practice as an assistant in medicine and surgery, though the major part of his time will be taken up with teaching.

Traveling expenses and living quarters are provided in addition to $50 monthly salary. The terms: a three-year appointment with the privilege of renewal of contract with two or three additional years, if mutually agreeable.

Christian men who wish to investigate this opening should send full particulars regarding their qualifications to Mr. Wilbert B. Smith, 600 Lexington avenue, New York City.

NEW MEMBERS.

Schneider, E. H., Los Angeles.
Speik, Fred'k A., Los Angeles.
Wiser, Frank C., Los Angeles.
Nichols, Robt. C., Los Angeles.
Bittman, E. J., Pasadena.
Steinberg, Jas., Los Angeles.
Abbott, P. F., Oakland.
Du Val Brecht, Nelson, Angel Island.
Zaicheck, Otto., San Francisco.
Kellogg, W. H., San Francisco.
Lander, Chas. J., San Francisco.
Beattie, W. A., Sacramento.
Gottschalk, Adolph, Sacramento.
Reilly, Paul, Vallejo.
Hinchley, J. P., Fillmore,
Thomas, Frank, Los Angeles.
Kyle, John J., Los Angeles.
De Puy, Clarence A., Melrose.
Grimmer, E. M., Irvington.
Shade, M. A., Oakland.
Locke, C. W., Lindsay.
Maloney, R. Lee., San Diego.
Stewart, A. C., San Diego.
Jennings, Chas. R., Los Angeles.
Callnon, John W., Chino.
Platt, I. S., Los Angeles.
Clarke, R. M., Covina.
Griffith, H. M., Pasadena.
Rees, H. C., Los Angeles.
Schwuchow, W. B., Los Angeles.
Rosenberger, J. A., Big Creek.
Little, Thos. Coe, San Diego.
Jackson, Jas. A., San Diego.
Larzalere, J. V., Escondido.
Crokat, E. A., San Diego.
Reid, R. S., Oceanside.
Crabtree, E. H., San Diego.
Hartwell, Robt. Wm., Dos Palos.
Campbell, Frank McLean, Oakland.
Moore, D. S., Los Angeles.
Peck, Jno. W., Berkeley.
Park, C. C., Santa Barbara.
Holgate, C. E., Los Angeles.
Mixsell, R. B., Pasadena.
Haight, Harry Wm., Los Angeles.
Reber, W. W., Inglewood.
Samaneigo, J. A., Los Angeles.

DEATHS.

Cameron, Jas. S., Red Bluff.
Cook, Wm. V., Los Angeles.
Crumpton, H. J., Oakland.